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ABSTRACT

Proceedings of the 1979 Financial Measures Conference which assess "Progress in Measuring Financial Conditions of Colleges and Universities" are presented. Focus is the prospective uses of financial indicators and the results of attempts to employ indicators at the institutional, state, regional, and federal levels for management, and policy analysis and implementation. Papers and authors are as follows: "The Federal Interest in Development of Financial Indicators for Policy Purposes" (Victor D. Wenk); "Progress at the Regional Level: Advances in the Use of Financial Indicators in the Regional Accreditation Process" (William Haywood); "State Level Uses of Financial Health Indicators--Problems in Assessing the Health of Public Institutions" (Paul Wing); "The History and Prospects for Financial Health Indicators in Maryland" (Frank A. Schmidtlein and Lucie Lapovsky); "The Use of Performance/Quality Data to Allocate Funds" (E. Grady Bogue); "Implications for State Policy Toward Public Institutions" (T. Michael Elliott); "Legislative Uses of Financial Data for State Policy-Making" (William D. Law, Jr.); "Independent Colleges: A Case Study Approach" (Nathan Dickmeyer and K. Scott Hughes); "Critical Assessment of What is Needed Now: Perceptions of the Business Officer" (D. Francis Finn); "The NCHEMS Indicators Project, NCHEMS Financial Health Indicators" (Douglas Collier); "50-State Study of Support for Higher Education" (Marilyn McCoy and D. Kent Halstead); "On the Horizon: Bringing Educational Quality into Financial Analysis" (Hayden W. Smith); "Plans for 1980" (Carol Frances); and "A Review of Progress Toward Implementation of the Recommendations of the 1978 Conference Report" (Carol Frances). (SW)

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FINANCIAL MEASURES CONFERENCE

PROGRESS IN MEASURING FINANCIAL CONDITIONS OF COLLEGES AND UNIVERSITIES

1979 Working Conference

September 27-28, 1979

Annapolis, Maryland

Conference organized by

Carol Frances
Nathan Dickmeyer
Sharon Coldren

Papers edited by

Judith Stich

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Conference Planning Committee

Carol Frances
Salvatore Corrallo
Nathan Dickmeyer
D. Francis Finn
K. Scott Hughes
Paul F. Mertins
Sharon L. Coldren

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Economics and Finance Unit
American Council on Education
One Dupont Circle, N.W.
Washington, D.C.
(202) 833-4778

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Preface

This is the report of the third annual Conference on the Financial Measures Project. The purpose of the meeting was to assess Progress in Measuring Financial Conditions of Colleges and Universities. These are the edited papers presented by those in the field invited to discuss their perceptions of the prospective uses of financial indicators and the results of their attempts to employ indicators at the institutional, state, regional and federal levels for management, and policy analysis and implementation.

The Conference was co-sponsored by the American Council on Education, the National Association of College and University Business Officers, and the National Center for Education Statistics.

Carol Frances and Nathan Dickmeyer of the Economics and Finance Unit of the American Council on Education were responsible for organizing the meeting. Scott Hughes of NACUBO, Paul Mertins of NCES and Sal Corrallo of the Office of Education provided helpful guidance in planning the program and identifying key speakers. Peggy Pollock of ACE and Anna Marie Cirino of NACUBO provided staff support in preparing for the meeting and making arrangements at the Conference site. Judith Stich of ACE edited the papers for the Conference report.

The Annapolis Conferences have come to play a significant role in strengthening linkages among the people working in the field of financial analysis for colleges and universities and in stimulating ideas about how to accelerate progress. We now have enough experience to see that the impacts of these Conferences extend far beyond the meetings themselves. Participation in this process with our colleagues is both professionally and personally rewarding.

A REVIEW OF PROGRESS TOWARD IMPLEMENTATION OF THE RECOMMENDATIONS OF THE 1978 CONFERENCE REPORT

Carol Frances
Chief Economist and Director, Economics and Finance Unit
American Council on Education

Consistent with our focus on results, this 1979 Conference Report opens with a review of the progress that has been made in the field over the year since the last meeting. Each of the eight recommendations from the 1978 report is set forth with an indication of any actions that have been taken. Then, based on an overall assessment of these activities and on the extensive discussions that took place at the most recent Conference, we have synthesized recommendations for the next steps to take in this rapidly advancing field.

1. Financial indicators should be developed using time-series data.

Many factors affecting the financial conditions of colleges and universities--such as enrollments, endowment income, private gifts, or cost increases--are subject to such year-to-year fluctuations that analysis of the underlying financial trends requires smoothing of the financial data over several years. In addition, cycles in overall economic activity may affect institutional finances. Consequently, characterization of longer term trends in the financial conditions of colleges and universities require that financial indicators be constructed and interpreted using time-series data covering extensive enough periods to identify the longer term trends.

Significant progress has been made in generating the longitudinal financial data necessary for time series analysis with the inclusion of a Task 8 to do this work in the contract awarded this year by the NCES-Statistical Analysis Group in Education to the American Institute for Research. The longitudinal data merged for institutions reporting on the HEGIS Finance Surveys from 1975 to 1978 will be available in the Spring of 1980.

2. Steps should be taken to design formats and procedures for collecting balance sheet data.

Assessment of financial conditions requires not only data on revenues and expenditures relating to current operations, but also the accumulated stock of assets and liabilities shown on balance sheets.

A first attempt has been made to design a data collection instrument which includes balance sheet information, to wrap-around the current Higher Education General Information Survey finance questionnaire. This expanded survey is to be undertaken with Office of Education support by the ACE Higher Education Panel. The survey has been tested in the field and will be sent out to approximately 500 institutions in the Spring of 1980. The balance sheet data, combined with HEGIS information, should be available, subject to confidentiality restrictions, for preliminary analysis in the Fall of 1980.

3. The possibility of collecting some financial data by major item of expense should be explored.

This information is central to such analytic tasks as comparing expenditure patterns among similar institutions and constructing broadly based higher education price indexes. Initial work in this area, which was funded by the National Science Foundation and carried out at Ohio State University by George Baughman demonstrates the feasibility of computerized reporting of expenditure data. Detailed accounting records of expenditures were organized on a consistent format by object and by function at six different levels of aggregation for four major universities. There remains, however, a need for a much broader base of expenditure data for different types of institutions.

4. Financial indicators should be interpreted in context, with consideration of the changes in the quality of education and other nonfinancial institutional resources.

Interpretation of financial indicators in the context of changes in the quality of education and in other nonfinancial institutional resources is still at a very rudimentary stage. Because of the vast importance of imbedding financial indicators into the other dimensions of institutional vitality, much more work should be done in this area.

5. Data should be generated and reported for small, relatively homogeneous groups of institutions.

Interpretation of financial indicators requires that frames of reference be developed. These frames of reference can be constructed from the range of values of financial indicators for similar institutions. At this stage in the development of financial indicators, much more work should be done to specify the dimensions along which institutions should be measured for similarity. In this way, appropriate peer groups can be established for the purposes of making financial comparisons.

Delineation of peer groups might encompass such characteristics as educational mission, institution size (as measured by enrollments or budget), degrees offered, program diversity, student body characteristics, student/faculty ratios, faculty salary levels, per student instructional expenditures, financial structure, (e.g., tuition dependence, auxiliary enterprises), tuition levels, competitive strength, and location.

Reporting of the indicator values obtained in cooperative studies by financial peer groups is at a rudimentary stage. Groups of institutions in workshops analyzing their financial conditions produce indicator values, but the collection and presentation of the comparative data has yet to be done systematically.

6. Efforts should begin to identify characteristic values or normal ranges of financial indicators for specified groups of institutions.

The development of characteristic or normative values for financial indicators is passing through three stages: the first stage is simply statistical, reporting results of arithmetical computations; the second stage is structural, comparing the percentage shares of revenues or expenditures which describe the financial structure of the institutions. The third stage is to attempt to produce operating values, based on understandings of how the values relate to each other in an on-going educational enterprise so that the norms are given validity and meaning not only from a statistical, but also from a management perspective. The third stage has not yet been attempted in any comprehensive way.

7. Greater technical assistance to perspective users of financial indicators.

During the last year workbooks for use in financial self-analysis have been designed in joint projects under the direction of Nathan Dickmeyer of ACE, and Scott Hughes formerly of NACUBO and subsequently with Peat, Marwick, Mitchell and Company. Workshops to help college administrators assess the financial conditions they confront have been organized for groups of institutions through the series of Leadership Development Seminars sponsored by the American Council on Education and co-sponsored by other educational associations, including the National Association of Independent Colleges and Universities. These workshops as well as others organized by John Minter and Associates with the participation of Hans Jenny appear to be helpful in speeding up the dissemination of useful new approaches to assessing the financial conditions of individual institutions.

Next steps in this area involve helping the financial administrators and planners after they get back to their own campus to use the results of their analyses in making major management decisions.

8. Further conceptual development of financial indicators should be actively encouraged.

Progress in these fields seems to be made fastest in an iterative process, starting with the construction of a conceptual framework for identifying indicators, interpreting them, attempting to use the indicators to assess financial conditions, evaluating the usefulness of the indicators in helping to make management choices, and then critically reviewing them again to strenthen the conceptual framework for understanding them. At this stage of development the process is continuous, accelerated now by the attempts to use indicators at the institutional and state level to make planning decisions. The most fruitful new approach for constructing the conceptual framework for interpreting financial indicators seems to be an institutional resource allocation model, built within a larger context, first of competition for students in their education market, and then in the still larger context of the overall economic and financial environment, which is currently characterized by slow growth and inflation.

Recommendations for Next Steps

On the basis of the preceeding review of progress over the last twelve months in the rapidly advancing state of the art, as well as the discussions at the Annapolis-3 Conference, we make the following recommendations for work to be initiated in 1980 in the field of financial indicator development and analysis for colleges and universities. Implementing some of the recommendations requires major cooperation of the education sector and the national statistical offices; other recommendations could be acted on by individual analysts working at a single institution.

Earlier Work to be Continued and Intensified.

1. The longitudinal financial data which has been generated should be updated annually as new survey information becomes available. In addition, the longitudinal data should be used to help assess the quality of the institutionally reported data.

2. The feasibility of the national collection and publication of balance sheet data should be explored further.

3. More work should be done on collecting consistent expenditure data for colleges and universities.

4. Peer group analysis should be made more rigorous, both in the delineation of the institutions included in comparative analyses and in interpretation of the values calculated for the financial indicators for different groups.

5. Analysis should be continued to strengthen the understanding of the management trade-offs being made between financial and nonfinancial institutional resources.

New Work to be Inaugurated

1. Work should be done on management decision processes for establishing target levels for financial indicators in succeeding fiscal years to assist in institutional planning and budgeting.

2. Studies should be done of better ways to use financial analyses as bases for developing improved planning, budgeting, and management strategies to achieve institutional educational goals.

3. Attempts should be made to gain a better understanding of the demographic, economic, political, and other factors that affect the institutions' ability to achieve the financial targets they establish for themselves.

4. Institutional sector financial analyses should be examined for the implications they hold for public policy issues concerning support for higher education.

5. The impacts on educational quality and on educational opportunity for students which result from the changing financial conditions of colleges and universities should be assessed.

THE PURPOSE OF THE CONFERENCE

Carol Frances
Chief Economist and Director, Economics and Finance Unit
American Council on Education

It is a pleasure to welcome you to this working conference. The purpose of the meeting is to make a realistic assessment of the progress that has been made in measuring financial conditions of higher education institutions. The focus, today, is on results, or at least, results so far of using our more carefully honed tools of financial analysis.

In the last several years, we have worked to specify the needs for better tools and proposed a number of innovations and refinements. We have reached the stage in the indicator development process where it is useful to evaluate our progress.

The opening session of the conference is organized to bring together the indicator developers and users to answer four questions:

1. Who is using indicators?
2. Which indicators?
3. How are the indicators being used? For what purpose are specific indicators being used?
4. What is happening as a result? Who is doing what differently?

We are at an exciting stage in this process, as we intensify our testing of these indicators in use. Now we need to take our own measure - how are we doing? We can look forward with great interest to the candid appraisals that we will hear at the conference.

The conference is co-sponsored by the American Council on Education, the National Association of College and University Business Officers, and the National Center for Education Statistics, who have been cooperating in bringing together those on the leading edge in development of financial indicators in formal and informal meetings since 1975. Two of the principle people in this effort - one from the public sector, Marjorie Chandler, and one from the private sector, Scott Hughes - will share their perceptions of the purpose of this meeting.

THE PURPOSE OF THE CONFERENCE

Marjorie Chandler
Acting Director, Division of Postsecondary Education Statistics
National Center for Education Statistics

After much deliberation I selected for my text a few lines from a poem by Edna St. Vincent Millay:

> Upon this gifted age, in its dark hour
> Rains from the sky a meteoric shower
> Of facts.. They lie unquestioned, uncombined;
> Wisdom enough to leech us of our ill.
> Is daily spun, but there exists no loom
> To weave it into fabric.

These lines express quite eloquently what we have been doing at the conferences these past two years. We faced a superabundance of facts and data and sought to convert it into information. In the words of the poem we have built a loom and are trying to weave a fabric. Now at this third conference we are going to see how the fabric holds up under practical use.

We are delighted to cooperate with ACE and NACUBO in this long standing effort. We are especially pleased to have with us, as head of our NCES conference delegation today, Victor Wenk who is our new deputy administrator of the center. In a very few minutes, he will speak to us about federal interest in the development of financial indicators for policy purposes.

THE PURPOSE OF THE CONFERENCE

K. Scott Hughes
Director, Financial Management Center
National Association of College & University Business Officers

Just let me say welcome for a third year. For those of us who have made it three years in a row, it feels good to be back. We have Carol to thank for putting this show together. It is certainly a good opportunity for us to gather together.

Let me just say a few words with regard to NACUBO's perspective on the conference.

On behalf of Francis Finn, who is our executive vice-president, and the NACUBO organization, welcome to the third annual conference on financial measures. The program looks to be a rich one and there should be plenty of new ideas and new information for us to ponder. From NACUBO's perspective, this conference is one of the few and maybe the only working session where we can learn how others are addressing the problem of the measurement of university and college financial conditions. Also, often in the rush of the moment we tend to become parochial in our thoughts and actions, to have little opportunity to sit back and look around and store up all of the good things that our colleagues are doing. This conference is one of those rare opportunities.

For the first time, the Annapolis conference looks at some of the major work going on at the state level and in the accreditation process. These are added dimensions that we may wish to continue on an ongoing basis. Another significant feature of this year's Annapolis conference is the emphasis on the assessment of financial condition rather than solely on a process. As we begin to learn more about how to measure financial strengths and weaknesses, the conference should become more result-oriented because it isn't until we have gathered the data, performed the analysis, and made the assessments that we can begin the next critical stage of the process which is policy determination, that is, what management and policy actions are required given the particular financial strengths and weaknesses of the institution.

One of the major concerns of the NACUBO board of directors is the continuing financial plight of the small colleges. Their lack of financial flexibility, their high proportion of fixed cost, and their tenuous enrollment situation puts many of these colleges in a perilous situation. In addition, it is these same schools that lack the management strength and depth to address their particularly severe problems. So if I were to make a plea for one specific type of objective that will come out of this working conference, it would be to encourage development of tools that will help evaluate the financial strengths and weaknesses of small colleges which will lead them toward improvement in their management practices and, at the same time, help federal policymakers improve ways of assisting those institutions.

Again, welcome and I hope you have a good two days.

THE FEDERAL INTEREST IN DEVELOPMENT OF FINANCIAL INDICATORS FOR POLICY PURPOSES

Victor D. Wenk
Deputy Administrator
National Center for Education Statistics

As you know, the National Center for Education Statistics is one of the three sponsors of this working conference along with ACE and NACUBO. The National Center's interest in co-sponsoring the Conference directly relates to two major mandated missions of the Center. They are to report full and complete statistics on the condition of education in the United States, and to prepare specialized analyses on the meaning of such statistics. The Center has a further goal in ensuring the maximum relevant use of NCES data, such as HEGIS, in the development of measures of that condition in the world of higher education. Simultaneously, we hope to improve the quality of HEGIS data by having the data utilized, and thereby demonstrating to users and providers the value of supplying better, faster and more consistent data. As NCES data are used for analytic purposes, NCES learns more about the capabilities and limitations of its data and data systems. The Center thus obtains a guide to future planning to improve the quality and reach of its data.

Because the Center is increasingly seen as a source of policy relevant information, we want to provide such information in the formats and conceptual frameworks most useful for policy analysis, development and implementation. Development of suitable financial health indicators could very well be such a case. Thus, we wish to encourage and facilitate the dialogue among researchers and users actively developing indicators of financial health.

Personally, I feel the timing of this Conference is highly opportune, and I will be listening very carefully to the discussions and conclusions reached about the stated objectives of this conference--namely to make a systematic assessment of progress in the field of financial indicators development and to assess the value of the techniques being tested in use. As some of you probably already know, I'm quite interested in appropriately shaping the National Center's future program concerning the economic and financial dimensions of education. The discussion and results of this Conference can be quite useful in that process taken together with a number of other separate, but related, NCES activities. These activities include the following: a literature review and synthesis of the development and use of financial indicators for colleges and universities, conducted for NCES under our SAGE contract; NCES's participation and discussion with sponsors and participants at this and prior Conferences; our ongoing work in the generation of the Congressionally mandated school finance equity profiles; and our participation in the HEW School Finance Project.

The active Federal interest in supporting postsecondary education through student and institutional aid programs is, of course, well known.

Equality of educational opportunity (including student access, student choice, educational diversity) is emphasized. Legislation, as, for example, Title III (strengthening and developing institutions), Title IV (student assistant), Title VII (construction, reconstruction and renovation of facilities), and Title X (Community Colleges) as well as Title IX (prohibition of sex discrimination) of the Education Amendments of 1972 - is implemented by HEW and other Federal agencies through several programs.

Federal interest in the development of financial indicators is often measured from a baseline established by the 1974 Report of the National Commission on the Financing of Postsecondary Education. In examing the seriousness of financial distress in institutions at the time, and the possible necessity for governmental intervention, members of the commission noted that measurement and comparison were complicated by lack of agreement on a uniform definition or criterion for the existence, nature, and extent of financial distress among postsecondary institutions. The report, The Financing of Postsecondary Education, called for the development of national standard indicators to determine the relative financial status of different types of postsecondary institutions.

A more recent impetus is associated with the 1978 GAO report to Congress, Problems and Outlook of Small Private Liberal Art Colleges, which recommended that the Secretary of HEW periodically assess the financial condition of postsecondary education institutions, considering standard indicators such as those suggested by the National Commission on the Financing of Postsecondary Education.

A recent review of the field conducted for NCES indicates that since 1973 more than 40 major studies generating over 300 financial indicators (of which 15 have been in Federal policy analyses areas) have been conducted for one or more purposes. The number of indicators developed seems to confirm the belief that a variety of different indicators is needed for different purposes and users.

I would like to share with you some observations of mine concerning the Federal interest in the development of financial indicators for policy purposes. It is clear that the development of financial indicators could help to improve Federal policy development in several ways. Suitably developed and well accepted indicators could give greater visibility to problem areas in higher education and allow for more informed judgments about National priorities. In a time of scarce resources and considerable competing demands for these resources, this visibility could more clearly demonstrate the extent and magnitude of higher education needs. Given current combinations of demographic and inflationary pressures, financial health indicators displaying patterns of decline could influence Federal policy. For example, detection of national and regional patterns of actual or potential restriction on equality of opportunities for students from different sectors of the population (e.g. minority, urban, rural, economically disadvantaged) and by category of institution would be helpful. Clearly, this kind of current and prospective application supports the problem-identification phase of the policy process.

In subsequent phases of the policy cycle, the indicators that we formulate and select, coupled with process models and their underlying theoretical or empirical formulations, must provide a reasonable degree of predictive capability in order to allow evaluation of the potential effects of alternative strategies and programs. The proper balance between the relative stages of development, of explanatory and predictive models and the stages of development of financial health indicators must be determined. Financial indicators alone do not suffice; examinations of nonfinancial impact are also necessary. This again raises a question of relative balance, namely the desired pace of development of indicators of nonfinancial dimensions of the higher education enterprise as compared to the pace of development of financial indicators.

Indicators may also serve Federal policy purposes in post-implementation evaluation activities by measuring the degree to which desired outcomes have indeed been, or are being, achieved on a national basis. More detailed indicators could be useful for diagnosing the factors that are, or are not, associated with success or failure of programs. And, of course, to the degree that future indicators allow valid between-institution comparisons, a common pool of information could be established thus facilitating interchange of comparable normative information among institutions.

On the other side of the coin, there are the properties or characteristics that one would require of indicators if they are likely to be used for Federal policy purposes. First, the conceptual (and calculational) basis of any indicator must be readily understandable by all potential audiences, in other words, by others than just researchers and policy analysts. Second, even though indicators may provide only one of the many inputs to policy determination processes, and even though one would expect any single indicator to have a restricted range of applicability, it remains the responsibility of the indicator developer and those who apply the methodology to clearly delineate the proper uses and limitations of a methodology and its results. Ease of gathering and updating, at suitable intervals, reliable and timely data that are input to an indicator's calculation have and will continue to be extensively discussed. And finally, it would not surprise me if a significant part of the discussion today and tomorrow revolved around the questions of the adequacy and suitability of a framework for the validation of proposed indicators, and the actual conduct of such validation studies.

Let me close on that note. I am looking forward to participating in the discussions of the next day and a half.

ADVANCES IN THE USE OF FINANCIAL INDICATORS IN THE REGIONAL ACCREDITATION PROCESS

William T. Haywood
Vice President for
Business Affairs
and Treasurer
Skidmore College

It is from the perspective of service as the Chairman of the Subcommittee on Financial Stability, a subcommittee of the Committees on Standards and Reports of the Commission on Colleges of the Southern Association of Colleges and Schools (SACS), from membership on the Task Force for the development of the workbook "Self-Assessment of Financial Condition" recently published under the auspices of the American Council on Education and the National Association of Colleges and University Business Officers and from personal involvement for nearly three decades in the accreditation process that this presentation is made. Additionally, I have had an abiding interest over many years in attempting to develop working financial indicators as a tool in the accreditation process. We have found in recent years with inflationary cost spirals resulting in rapidly changing economic conditions in higher educational institutions that our traditional approaches to financial stability evaluation of our institutions were wholly inadequate leading frequently to embarrassment of the accrediting agencies and sometimes to chaos for institutions. Formal criteria for the evaluation of the financial conditions of colleges and universities for either initial accreditation or reaffirmation of accreditation is essential if we are to be effective in our endeavor. We have found that constant monitoring of financial condition frequently forestalls disaster which would surely have occurred had the full ten-year time span of the accreditation cycle run without interim review. Reasonably sophisticated tools are necessary in this effort.

The accrediting process for our purposes here is approached from the point of view of the accrediting agency with particular emphasis on the work needs of the Subcommittee on Financial Stability. It is important to indicate the kinds of information that the Subcommittee seeks about college finances, the results of the Subcommittee's work, the helpful role of the use of financial indicators in the process and finally the role that SACS is playing in the use of financial indicators. An outline of the accreditation process and the work of the Subcommittee as a part of that process is indicated.

SACS covers 11 states and has in excess of 700 higher education member institutions. The institutions are divided into five groups referred to as Levels I through V. There are separate standing committees on Standards and Reports for Level I (2 year colleges) and for Levels II - IV, i.e., those institutions which offer bachelor's degrees only, those which offer bachelor's and master's degrees, those which offer bachelor's, master's and doctor's degrees, and those offering graduate or professional degrees only.

Each candidate institution for either accreditation or reaffirmation conducts a comprehensive self-study using standards and criteria established by the commission to determine whether the Standards of the commission are met in achieving the institution's stated goals and objectives. In the SACS area Standard Four is rather specific in identifying the criteria for financial stability.

A visiting committee of educators from similar institutions is appointed by the Commission to visit and study the institution and to evaluate the institutional self-study. In addition to a number of academic administrators and classroom teachers, each committee usually consists of a college or university president, a college business officer and a student personnel dean. When the self-study is nearly complete, the chairperson of the visiting committee makes a visit to the campus to assist with the self-study and to respond to any difficult questions which the local self-study group may have. This is followed by the visiting committee's site visit upon the conclusion of the self-study. In its evaluation report of the self-study the visiting committee indicates with a high degree of specificity to the Commission its judgment of the strengths and weakensses of the institution. In addition to indicating to the Committees on Standards and Reports whether or not each Standard and its subparts are met, a report in essay form calls attention to perceived weaknesses which must be addressed formally and trends which foreshadow future trouble. It is from these reports and from subsequent annual institutional profile reports that financial instability from whatever cause is identified.

The Subcommittee on Financial Stability was established two years ago in response to the growing realization that the existing procedure was inadequate to effectively screen institutional profile and committee reports for deteriorating financial condition. The Subcommittee is comprised of six senior business officers from representative institutions who have extensive accreditation and work experience in two-year and four-year colleges, in comprehensive universities, in public, private and minority institutions. It receives referrals either from the staff who screen yearly profile reports, or from the Committees on Standards and Reports above enumerated and, in some instances, from visiting committees which seek the input of the Subcommittee on Financial Stability in its evaluation of the institution's Standard Four financial stability portion of the self-study.

Each referred institution is assigned a reader who studies the auditor's reports for the most recent years, annual profile reports, the Commission on Colleges staff files, the reports of both staff and evaluators visits and reports from special consultations. The reader presents his findings to the

Subcommittee which fully discusses the findings of the reader and his recommendations. If the Subcommittee has difficulty assessing the true financial condition of the institution, it may pursue any one or a combination of a number of actions, i.e.: (1) request additional information; (2) send a special consultant or Commission staff member to the college to develop additional on-site information; (3) request the appropriate officers of the institution to meet with the Subcommittee for consultation.

The Subcommittee's conclusions are based on analysis of the statistics which are typically measured to determine the financial stability. These statistics include: (1) trends for both FTE enrollment and full-time versus part-time enrollments; (2) trends in revenues by categories and by fund groups; (3) trends in expenditures by categories; (4) trends in long term debt: debt service and status; (5) trends in short term debt: the purpose and due date; (6) the current ratio; (7) trends in fund balances; (8) trends in receivables and payables; (9) the auditor's notes; (10) the audit management letter; (11) a consideration of the sufficiency of the audit; and (12) whether or not there has been program proliferation.

Upon the conclusion of all deliberations the Subcommittee may take any one of several courses of action: (1) it may determine that the financial condition is satisfactory and close the file; (2) it may determine that the financial condition while satisfactory is such that it requires constant monitoring and call for appropriate updated information on an annual basis; (3) it may find that the financial condition is unstable and direct certain remedial actions with continued monitoring; (4) it may determine that the financial condition has deteriorated to the point that the institution is no longer a viable educational organization and call for the trustee chairman, president, dean and business officer to appear before either the Committees on Standards and Reports or the Subcommittee to show cause why it should not be placed on either private or public probation or denied accreditation, depending on the institution's current status. The chairman of the Subcommittee sits as a consultant to the Committees on Standards and Reports and participates fully in their deliberations. Since he also consults with the Committee on Admissions and Readmissions (initial accreditation) and since all three committees meet simultaneously, a hectic pace is maintained on the meeting dates.

The next stage in the development of the evaluation process will be the use of the ACE/NACUBO workbook as part of the accreditation process. The phase-in of the workbook will begin with two seminars at the December Annual Meeting. In these seminars we will introduce the use and purpose of the financial indicators developed in the workbook. The Subcommittee on Financial Condition will use the indicators extensively requiring financially unstable institutions to employ a reporting format similar to the workbook indicators. The use of financial indicator measures will be employed by institutions entering into the self-study process in 1980 and the indicators will be included in the Standard Four revised descriptive material now being developed.

Five years ago SACS began to collect data and publish statistics on educational and general expenditures of its member institutions by level of expenditures and size of institution. That data base will be expanded as needed and will serve to validate the use of the measures of financial assessment by the Southern Association of Colleges and Schools.

PROBLEMS IN ASSESSING THE FINANCIAL STATUS OF PUBLIC COLLEGES AND UNIVERSITIES

Paul Wing
Coordinator of Postsecondary Research
New York State Education Department

The task of monitoring the financial status of colleges and universities is surrounded by problems and issues, both technical and philosophical. This paper discusses two of them: assessment of the financial health of public institutions and state-level uses of financial status indicators.

Financial Status of Public Institutions

Assessment of the financial status of public colleges and universities has lagged behind similar efforts for independent institutions for a number of reasons. One important reason is measurement problems related to the fact that funding procedures for public campuses generally do not permit deficits, one of the key indicators of difficulty for independent colleges. In addition, audited financial statements are generally not available as they are for independent institutions. Another reason is the nature of the funding for most public colleges which is deeply rooted in politics. Some might even argue that because no particular action would result from measurement of the status of a public campus, there is no real need for such evaluations.

From a state perspective, however, there is a need for work on this topic. Considerations of equity dictate that if the financial condition of independent institutions is being evaluated, then the same should be done for publics. Public campuses will face the same competition for students as the independents. In addition, pressures for reduced public spending in the face of double-digit inflation and declining numbers of high school graduates is certain to create growing interest in questions of efficient use of resources in public institutions. This in turn will raise questions about retrenchment, consolidation, and even closure.

Financially weak campuses will create one or more of the following kinds of problems:

1) They use resources less effectively than healthy campuses.

2) They compromise services and quality to make ends meet.

3) They drain resources away from other campuses.

To deal with these situations, additional information and insights about the financial status of public campuses will be needed. The question is: What kind of information and insights?

Perhaps the first step in the process of answering this question is a better understanding of what financial weakness is in a public campus. For an independent institution this is associated with deficits and insufficient resources. In a public campus, even though deficits may not be possible, there can nevertheless be insufficient resources to carry out the desired programs and activities. This will generally be translated into higher expenditures per student if the state decides to cover the costs, or reduced services in one form or another (e.g., increased class sized, smaller salary increases). The last two indicate the kind of interpretive conflicts that may exist: reduced spending and more efficient operations will generally reduce services and quality. The balance between the two may be a delicate one.

All of these possiblities should be viewed in the context of fixed enrollments or should be adjusted for enrollment levels. It is not possible to argue that by reducing the size of a campus the problem can be avoided. Reduced enrollments result in reduced funding because of the kinds of formulas used to determine state support for public campuses. In fact, it is generally true that economies of scale work to the disadvantage of colleges in times of declining enrollment. This also suggests that the problem we are discussing will become more relevant in the future.

Possible Measures

In light of all this, what specific measures can be used? It seems likely that primary indicators will be related to expenditures and productivity, and changes in these over time:

-- "Student-related" expenditures per FTE student.
If this statistic is "excessively large," it indicates potential problems.

-- Class size.
A "very large" average class size may indicate efficient operations, or it may point out an institution that has been compromising quality or increasing faculty work load in the face of fiscal pressures. A "very small" average class size will probably be related to either high costs per student or low salaries for faculty.

-- Faculty salaries.
A third element in the puzzle is the amount paid for inputs, the most important of which is faculty salaries. By holding salaries down, the same services can be provided for less money. This becomes a serious problem when good faculty leave and it disrupts the programs of a campus.

-- Equipment, supplies, etc.
"Peripheral" support can also be trimmed to make ends meet. As

long as essential activities are left untouched this will not be a problem.

There are also indirect measures of difficulty that are relevant to the financial status of a college. Declining enrollments and declining enrollment shares would suggest a weakening in the financial base for a college. This does not necessarily imply current or impending financial difficulties, but does suggest possible trouble.

None of these measures can be used by itself, or even in conjunction with other measures, to determine with certainty whether a public campus is having difficulties. They can be used, however, to identify institutions that deserve more careful evaluation via a visit or supplementary questionnaire. Where costs or quality proved to be significantly out of line with averages and could not be justified on an exception basis, further action could be taken. In all cases judgment would play an important role in any final determinations.

Possible State-Level Uses of the Statistics

Underlying all efforts to measure and evaluate the financial status of a college should be a strategy for using the resulting evaluations. It is not enough to say simply that one wants to identify institutions with problems. What will be done with the information that Podunk College or Rural State College are in difficulty? Several options are possible:

1) Notify the college and assist them to overcome their problems. While this is a noble thought, it may be counterproductive when viewed in the context of the total higher education system in a state. Assistance might better go to strong, high quality institutions, than to weak or marginal institutions.

2) Identify broad areas where special assistance (financial or other) might be appropriate. If a whole class of campuses faces the same problem, a special program might be developed. This would be particularly relevant if access or choice for students would be reduced significantly if no action were taken.

3) Identify specific situations where merger or consolidation would be appropriate. This might involve the identification of "complementary" institutions, along with active matchmaking.

4) Active steps to close a campus with "no prospects" for survival. Pulling the plug on a terminal patient is likely to be as difficult a task in higher education as it is in the intensive care ward. Because the political reverberations would be enormous, this action is likely to be chosen in very few (if any) cases.

Sensitivity of the Data

Because general knowledge of the difficulties of a particular campus will almost certainly aggravate the problem, the data and profiles and case studies used in studying individual campuses are particularly sensitive. In the wrong hands poor ratings could destroy the chances for recovery and survival. A dilemma arises, however, because nearly all the data required to evaluate the financial status of a college is in the public domain covered by various Freedom of Information Acts. This suggests the need for a great deal of caution in developing data profiles and case study reports. "Working draft" status, for example, can protect the actual case work of an agency.

The raw data are public, however. This suggests a need to develop better statements to be sent to those in the press and elsewhere that warn of the problems that may arise from inappropriate release of certain kinds of statistics and interpretations. Perhaps NCES could take the lead in developing such statements.

FINANCIAL HEALTH INDICATORS IN MARYLAND

Frank A. Schmidtlein
Director, Division of Academic and Financial Planning
Maryland State Board of Higher Education

My comments will focus primarily on some general considerations which are involved in the use of financial health indicators in Maryland. Lucie Lapovsky then will speak to the history and specific uses of indicators.

First, I want to express some concern over the "image" conjured up by the word indicator. To me, the word has something of a static quality, a sense of measuring something against some immutable standard. This rarely is the way we use financial indicators in making decisions. The important indicators we examine are trends or relationships among trends. The trends, perhaps somewhat artificially, can be placed in two categories. I have termed these "strategic" trends and "operational" trends. Strategic trends are those taking place in higher education's environment which affect the financial health of institutions. Operational trends are those taking place internally in institutions as they alter, or don't alter, their operations in response to external changes, internal resource shifts and technological changes. Lucie will elaborate on some of these trends.

The strategic trends which have implications for financial health fall into four broad categories:

1. Changes in the inputs available for institutions to operate.
2. Changes in the technologies which affect institutional efficiency.
3. Changes in the market for institutional outputs.
4. Changes in the relationships among inputs, processes, and outputs brought about by the first three types of trends.

Many of these changes, and relationships among changes taking place, do not have short-term financial implications, nor are they frequently considered indicators of financial health. However, their long-term effects, if not attended to sufficiently in advance, can be profound.

When we began to work on the Statewide Plan for Postsecondary Education in 1977, we examined trends taking place in the inputs into the educational system. We had excellent data on trends taking place in availability of access.

We noted enrollment of women and black undergraduates were close to parity with males and Caucasians. However, about half of our "A" students were going out-of-state, and we attracted very few merit scholars. We had less reliable data on trends affecting the availability of state revenues. We were aware of trends taking place nationally, such as legislation on handicapped accessability and energy conservation. Trends in the availability of qualified faculty were relatively clear. A very important, but highly intangible trend we could only guess at was the social priority Maryland citizens would place on a quality postsecondary education system. We did see that as the percentage of the population with children in elementary/secondary schools was declining, bond issues for financing schools were passed less frequently. This appeared to be partial evidence of a general public disenchantment over the values of education, at least for other people's children.

With respect to the processes and technology of postsecondary education, we saw few trends suggesting savings in such a labor intensive enterprise. In fact, the decline in inputs suggested trends toward higher unit costs because of less efficiently used plants and fixed costs, an issue Lucie will address further.

On the output side, we saw the large number of graduates competing for what traditionally had been "college graduate" jobs and many entering occupations formerly the primary domain of non-graduates. We more recently found there were large shifts of four-year college students to the community colleges. We found changes in demand among the occupations and changes in student perceptions of demand, leading to shifts among programs and needs to undertake painful reallocations of resources. The traditional academic market for doctoral graduates was becoming saturated in many fields. There were other trends also, too numerous to list, which we perceived to have financial implications.

Those trends I have enumerated, often were not considered indicators of financial health having urgent current implications, but let us consider some of their effects.

The down-turn in enrollments is putting institutions in an economic "Catch 22" situation. They need to maintain their quality to attract better students and faculty and to maintain their reputations - a valuable commodity in a field where outcome measurements are extremely value-laden and hard to define. However, funding is heavily based on the number of students served and tightening up standards in the face of greater competition for enrollments takes a somewhat rare form of courage. The Statewide Plan sought to enhance the financial health of the entire state system by placing enrollment limits on institutions which had reached or were nearing the capacity of their physical plant. At the same time new programs were proposed for institutions which were underenrolled to make their offerings more attractive. Scholarships and honors programs were proposed to attract back to Maryland the top students going out-of-state, thus increasing the attractiveness of our institutions and giving them more competitive ability to maintain enrollments. Differentiation was stressed in missions assigned to segments of higher education in order to prevent unnecessary duplication, or the development of underenrolled, low quality programs. The development and use of predictive indexes for student admissions was recommended to ensure institutions selected students likely to succeed in their programs.

Criteria for approval of new programs were strengthened to further control program duplication and quality. The number of institutions offering doctoral programs was restricted. An evaluation system, developed as a cooperative enterprise with the Middle States Association was proposed to help ensure the resources made available would be used to the best advantage.

In summary, the trends, or indicators, we examined suggested fewer students, stringent state budgets and, as a result, a competition for students which would raise costs and reduce quality - we would risk not getting the current return on our dollars when all indications were that increasing the quality of higher education in Maryland, together with efficiency, should be our primary goals in the coming years. Difficult decisions on discontinuing lower priority activities would require a statewide perspective and means to encourage tough institutional choices.

One last note, which is important to mention is that there are no absolute measures of financial health. We become accustomed to particular standards of quality and our indicators are related to these standards or the changing status of peers. Arguments over financial health, therefore, generally focus on the degree various standards of performance - whether measured in terms of inputs, process, or outputs - are maintained over time or in relation to competitors. The essential decisions are political, not technical. I have begun to suspect that legislators in states below the national mean for support of education prefer in-state trends as indicators and those from states above the mean prefer interstate indicators as support to help them contain budget demands.

Lucie will now lend some specificity and detail to these general observations in terms of indicators used for the operational decisions which our Board must make.

USE OF FINANCIAL HEALTH INDICATORS IN MARYLAND

Lucie Lapovsky
Coordinator, Financial Planning
Maryland State Board of Higher Education

Financial health indicators are used in Maryland when an institution is requesting State assistance, when an existing institution chooses to offer a new degree and/or academic program and when a new institution requests approval to operate in Maryland. Certain standard indicators are always reviewed irrespective of the type of request or the governance of the institution; in addition, specific indicators are analyzed based on the type of request and the specific governance of the institution.

Historically, financial health indicators have been applied primarily to the private sector. In Maryland, a major study of the independent institutions was undertaken in 1973 to assess the need for broad-based State support for the independent institutions. The report analyzed the dependence of these institutions on current operating funds to conduct their operations and the ability of each institution to meet its operating deficit because of a short fall in student tuition and fee income from endowment fund income and annual fund-raising activities. Projections of the financial condition of this segment of higher education were made for FY 1977, and the report concluded that many of the institutions would not be financially viable without an additional source of support. A formula-funded program based on the General Fund support at the public four-year institutions and the enrollment at the independent institutions was enacted by the legislature as a result of this report. There are two major reasons for substantial State support for the independent institutions in Maryland. The independent institutions offer a desired high quality product, and it is less costly to subsidize the independent institutions than to absorb many of the students served by this sector into the public segment of higher education in Maryland. These two reasons have been used as the justification for increasing the formula support by the State to the independent institutions during the last few years.

In terms of the Community Colleges in Maryland which are governed locally, financial health has been assessed in recent years in relation to increases in the State's aid formula. An assessment of the local governments' ability to contribute to the Community Colleges has been conducted. In addition, the effect of tuition increases on enrollment has been reviewed, and periodically the State has concluded that without additional State assistance, the required levels of tuition and fees would severely inhibit the open-door policies of the Community Colleges.

Annually, the four-year public institutions in Maryland must request State funds for their operating budgets. Historically, those institutions which have been able to operate most efficiently have received the lowest State funds per student. This has frequently had an adverse impact on the quality of education at these institutions and has encouraged inefficient institutions to remain inefficient. Presently, the State Board for Higher Education assesses the need for support for these institutions based on the relationship of their budget requests with a standard set of guidelines which take into account economies of scale, as well as the different types of students by level and type of academic program. The Board is trying to move toward a more equitable distribution of State resources among these institutions. Those institutions which are most likely to face problems in the future are the ones which are presently operating significantly above the guideline level of expenditures and those which have an exceedingly heavy reliance on State funds to support their operating budgets as compared with their tuition and fee income. The institutions which have these problems tend to be underenrolled and/or have a predominantly lower division undergraduate student body while supporting a research-oriented faculty with comparatively high salaries and low teaching loads.

When an existing institution chooses to offer a new degree and/or academic program, the faculty, library, facility and other support resources are evaluated to ensure that they are adequate to provide a quality program. In addition, enrollment projections are reviewed in terms of student interest as well as job market potential to assess the demand for the program. Finally, the impact of the program on other institutions in the State is assessed in terms of program duplication.

When a new institution applies to operate in Maryland, its financial health is analyzed in terms of the adequacy of the resources it has to be able to offer a quality educational program in terms of Maryland's minimum standards. In addition, a new institution must be able to put up a bond so that if it does go out of business, its debts can be paid off and students can be reimbursed.

As we move into a decade where enrollment declines are projected Statewide, the question of how to allocate existing scarce resources in an efficient manner that will allow provision of high quality education must be addressed. It is now incumbent upon the State to look at financial indicators generally in order to make difficult decisions about resource allocations. The questions for all of us are "Which indicators are relevant?" and "What decisions does one make given the indicators?"

In the long run, it is necessary to assess the aggregate physical plant capacity of all the institutions in relation to the projected enrollment. In Maryland as we forecast into the 1980's, it is clear that we will have excess physical capacity. The excess capacity will not be spread equally across either institutions or segments. Presently, we have certain institutions with excess capacity and others which have enrollments greater than their physical plant should accommodate. Schools with excess capacity tend to be unhealthy financially, because disproportionate amounts of their operating resources in comparison with similar institutions are being devoted to support of an unnecessarily large plant, and resources are thus being diverted from providing educational services. These institutions are faced with a real dilemma. They are unable to increase their enrollments without improving their instruction and support services yet they are unable to do this because they have to devote an inordinate amount of their resources to the support of their plant. From a State perspective the question of how to manage this problem is difficult. The State can choose to try to divert students to certain institutions through provision of new academic programs and thus spread the excess capacity more evenly; the State can wait and let some institutions die of "natural causes" or the state can either close or combine certain institutions. The choice the State makes depends on trade-offs among the amount of resources available, the quality of education to be offered and political realities. Other factors affecting financial health in relation to physical plant are the energy efficiency of the institution, the condition of the physical plant in terms of age and quality and the adequacy of the types of space for the academic programs which are offered.

A second factor affecting the financial health of institutions of higher education is the ability of an institution to attract and retain students. Institutions are faced with a trade-off between maintaining their present enrollment and reducing the quality of their students. Institutions will be tempted to reduce their academic requirements in order to increase their enrollments. If the amount of remedial work required is substantially increased, the health of higher education in general will have to be examined. For example, we have an institution with a nursing program where less than one-third of the graduates of this program are able to pass the State nursing exam; one must seriously question the use of resources to support this program. Those institutions which will be able to attract and retain students will be those which will be able to adapt quickly to the changing academic demands of the students. In relation to this aspect of financial health, one must examine the percent of the faculty with tenure as well as the percent of the faculty which is part-time and can thus be easily changed even in mid-year if necessary. In addition, an institution with a large percent of its student body receiving financial aid is in jeopardy of a major enrollment decline if the Federal government alters its policies.

A third factor affecting financial health is the ability of an institution to attract outside resources. Nationally, there is a correlation between high quality public institutions and institutions which have large foundations associated with them. Institutions which receive substantial support from their endowment income and from outside fund-raising are provided with a cushion against enrollment fluctuations. An institution which is forced to use its endowment income and sell its physical assets is in trouble financially if this situation persists for any length of time.

A fourth factor affecting financial health is the administration of an institution. This factor is frequently intangible and extremely difficult to measure. An institution with enlightened management which is willing to try innovative approaches and which is willing to make difficult decisions in terms of retrenchment has a much higher probability of remaining financially healthy than an institution which does not have the benefit of this type of leadership.

In conclusion, the question of financial health in higher education and the use of financial indicators to assess health are extremely difficult and complex problems which require a good deal of research. A major problem associated with the use of financial indicators is that if one pronounces an institution unhealthy one must follow this conclusion with action. Either the institution must be closed or combined with another institution, though this is rarely done because of the politics of the situation; or new programs and resources must be devoted to the institution to save it from its natural fate. An institution which would have died naturally will now require positive action which is usually costly.

LINKING STATE FUNDING AND INSTRUCTIONAL PERFORMANCE

E. G. BOGUE
Director, Performance Funding Center
Tennessee Higher Education Commission

The Intent

In many states, public higher education funds have generally been allocated on the basis of an enrollment model or formula, though such models have been subjected to growing criticism in recent years. Anticipating both public and professional concern with enrollment-driven funding policy, the Tennessee Higher Education Commission implemented in the fall of 1974 a five-year, half-million-dollar development effort entitled the Performance Funding Project. Its purpose was to explore the feasibility of allocating some portion of state funds on a performance criterion.

The Results

In the fall of 1979, a performance funding policy was implemented for the 1980-81 appropriations cycle. Approximately two percent of institutional budgets was allocated on the basis of institutional performance on five instructional performance/quality indicators: (1) proportion of eligible academic programs accredited, (2) assessment of general education outcomes, (3) assessment of specialty field outcomes, (4) peer evaluation of programs, and (5) student/alumni satisfaction indices. The range of allocations available based on this evaluation was from $30,000 at smaller institutions to $1,000,000 at the state's largest institution. A copy of the performance funding policy--as it appeared in the appropriations instructions-- is attached.

The Method

Adoption and implementation of this policy followed a long effort involving eleven different campus-based pilot efforts among Tennessee colleges and universities--three community colleges, five regional universities, and two doctoral universities. These campus-based projects were built on performance contracts between the Commission and the institutions and their governing boards. For relatively modest contract support, the eleven participating institutions contracted over a two-year period (1976-1978) to develop instructional performance indicators and to acquire initial data on these indicators. Activities and results of the pilot projects formed the basis for the performance funding previously described. Funded by grants from the Kellogg Foundation, the Ford Foundation, and the Fund for the Improvement of Postsecondary Education, the project was guided by both national and state advisory panels, the latter including executive and legislative members.

The Significance

Public sector managers, and scholars of public sector management and finance, have long sought closer links between funding and results in higher education and in other governmental activity. Executive and legislative officers have yearned for better handles in making priority allocations of state dollars. Experiments in the application of certain management concepts--such as PPBS--were conducted in the climates of initial enthusiasm and disappointing results. This presentation tells the story of an effort which sought a modest link between funding and performance. It is a story with potential for affecting higher education and other public sector management, and with some potential for private sector management of service and budget-based institutions.

The Concerns

Some of the concerns raised by institutional and board personnel in the fall of 1979 implementation of the Performance Funding Policy are expressed in these questions: (1) Will public officials take the performance ratings and attempt to establish some sort of qualitative ranking of institutions? (2) Why should institutions be deprived of allocations on quality when they are not getting enough money to have quality under current appropriations levels? (3) Will the rich get richer and poor get poorer? Will the large universities make out better on these variables than the smaller community colleges? (4) To what extent do the performance variables and standards adequately recognize the wide variation in mission among the state's institutions? These concerns, and others, merit thoughtful consideration.

The Future

The 1979 fall appropriations cycle--recommendations for expenditures in 1980-81--is the first attempt to utilize a performance funding policy in Tennessee higher education. Several features of the policy are already under consideration for revision, following receipt of suggestions from campuses and their boards. The fall evaluation of these initial performance variables and standards has already produced a number of ideas for improving this policy. At the time of this writing, however, the higher education community in Tennessee has taken an initiative of both philosophical and practical interest in linking state funding to measures of instructional performance.

Proposal to Allocate a Portion of State Appropriations for Tennessee Higher Education Upon the Results of Instructional Evaluation

Features of the Proposal

(1) The THEC would recommend a funding allocation to be based on evaluation of instruction at each institution. This allocation might be stated in a maximum dollar amount or percentage (for example: an amount equal to 2 percent of educational and general expenditures) (E & G) for each institution.)

(2) A Profile of Instructional Assessment as described below would be completed by each institution and submitted with the appropriations request. Data in this schedule would form the basis for an evaluation for each institution.

(3) The evaluation and assignment of numerical weights on the five instructional variables could be conducted by (a) governing board staff with THEC staff review, (b) the THEC staff, or (c) an external consultant team in consultation with either of the preceding.

(4) The evaluation translated into numerical format would determine what portion of this allocation an institution would receive. For example, if the percentage were 2 percent of E & G and this amount were $200,000 Institution A--and if Institution A received a rating of 60--it would get 60 percent of its allowance or $120,000.

(5) Suggested variables and relative weights are as follows:

Instructional Evaluation Variables*	Maximum Numerical Weight
(1) Proportion of Eligible Academic Programs Accredited	20
(2) Performance of Graduates on a Measure of General Education Outcomes	20
(3) Performance of Graduates on a Measure of Specialized or Major Field Outcomes	20
(4) Evaluation of Institutional Programs and Services by Enrolled Students, Recent Alumni, Community/Employers	20
(5) Peer Evaluation of Academic Programs	20

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*The standards for each variable are attached.

Instructional Evaluation Variable - Program Accreditation

	Numerical Rating
(1) Institution has less than 75% of eligible* academic programs accredited	0
(2) Institution has 75% to 90% of eligible academic programs accredited	10
(3) Institution has more than 90% of eligible academic programs accredited but not all	15
(4) Institution has all eligible programs accredited	20

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* A program is defined as "eligible" if there is a Council on Postsecondary Accreditation-approved agency or organization which accredits programs for that field and degree level--and especially if a Tennessee institution holds accreditation for that particular degree and field. In view of mission and/or other priorities, it is possible that some accreditable programs which would be eligible for such consideration should not be accredited. A list of candidate programs for consideration in this formula feature should be developed by the Commission in cooperation with the institutions and governing boards and should be approved by the Commission for funding purposes.

Instructional Evaluation Variable - Graduate Performance on a Measure of General Education Outcomes

	Numerical Rating
(1) The institution has assessed the performance of a representative sampling a significant number of graduates* on a measure of general education outcomes** on a pilot or one time basis during the last three years.	5
(2) The institution has an ongoing program to assess the performance of its graduates on a measure of general education outcomes and has data available for more than one class of graduates during the last three years.	10
(3) The institution has assessed the performance of its graduates on a measure of general educational outcomes and for at least one assessment during the last three years can demonstrate that the development of its graduates--that is, the change in performance from freshman students to graduating students --is equivalent to the development of students from institutions whose freshment students' performance is at a comparable level.	15
(4) The institution has assessed the performance of its graduates on a measure of general educational outcomes and for at least one assessment during the last three years can demonstrate that the development of its graduates--that is, the change in performance from freshman students to graduating students--is above the development of graduates from institutions whose freshmen students' performance was at a comparable level.	20

*Graduates for its major degree--associate for two-year institutions and bachelor's for senior institutions.

**General education outcomes are generally defined here as performance on major intellectual skills and knowledge expected of graduates with a particular degree--communication, problem solving, reasoning, familiarity with major modes of thought, etc. The measure of outcome must be a nationally prepared assessment instrument having norms beyond the institution. Examples would include the ACT COMP battery, the ETS GRE Aptitude tests, the ETS Undergraduate Assessment Program, or the ETS Test of Academic Competencies and General Education.

Note: The report must specify the instrument, the time/date of administration, the population or sample assessed, data results and analysis, and comparison with some comparative or absolute standard.

Instructional Evaluation Variable - Performance of Graduates on a Measure of Specialized or Major Field Competence

	Numerical Rating
(1) Institution has assessed performance* of a representative sampling of graduates** in one or more of its program fields leading to a major within last three years.	5
(2) Institution has assessed performance of a representative sampling of graduates in a the majority of program major fields during the past three years.	10
(3) Institution has assessed performance of a representative sampling of graduates in majority of its program major fields within the past three years and can demonstrate that the performance of its graduates rank with or above the performance of graduates from similar institutions***in majority of these fields.	10 - 20

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*The measure of performance must be an assessment instrument/procedure constructed external to the institution--with normative standards available for state, regional, or national samples. Examples would include the GRE field tests by ETS, state or national licensing examinations, professional field tests such as the National Teacher Exams.

**The number of graduates assessed must be sufficiently representative to permit statistically sound inferences to all graduates in that field.

***Similar institutions are those whose entering freshmen performance levels are comparable.

Instructional Evaluation Variable - Evaluation of Institutional Programs and Services by Enrolled Students, Recent Alumni, and Community Members/Employers

For any year in the past three years, an institution has conducted a survey of significant size of referent group evaluation of institutional programs and services.* The three referent groups are currently enrolled students, recent alumni, and community members/employers.

	Numerical Rating
(1) For one of these referent groups with limited program or service application. For example, a survey of graduates for one or two academic fields.	5
(2) For two or more of these referent groups with limited program or service application.	10
(3) For one of these referent groups with application to entire institution.	15
(4) For two or more of these referent groups with application to entire institution.	20

*The survey instrument employed may be a nationally constructed instrument such as the Student Reaction to College published by ETS, the NCHEMS Program Completer Questionnaire, or a locally constructed instrument. The instrument must yield quantifiable responses which reflect satisfaction or evaluation indices. The report must describe the instrument, time/date of use, the population surveyed, the response rate, summary and analysis of data, and policy program improvement actions taken as a result.

Instructional Evaluation Variable - Peer Evaluation of Academic Programs

	Numerical Rating
(1) The institution has conducted a formal evaluation of at least two major program fields during the last three years--an evaluation utilizing a peer review team of scholars from other institutions outside the state and/or practicing professionals within a field.* The institution can further indicate what changes in policy or practice were made as a result of evaluations.	5
(2) The institution can demonstrate that it has conducted at least five evaluations within the last five years as part of an ongoing program of peer review and can further indicate changes in policy or practice made as a result of these evaluations.	10
(3) The institution can demonstrate that one or more of its academic programs enjoy a favorable peer reputation beyond the state. Evidence of such peer reputation can take the form of national peer reviews similar to the Cartter study or institutionally conducted studies.	20

*A peer review team must consist of two or more persons who have visited the institution.

Note: The supporting data for this variable must describe the program field; the names, position, and brief vita outline of peer team members; the dates of visit/evaluation; the major findings; and follow-up actions taken.

WHERE ARE THE BOTTOM LINES ?

T. Michael Elliott
Director
Arkansas Department of Higher Education

I guess Hans Jenny got us started with the Golden Years. It's continued through At The Crossroads, The Turning Point, The New Depression, From Red To Black?, and others. Presentations have varied from the staid, conservative Bowen/Minter reports to the rather sensational headlines in Change. In the end, however, we are still faced with the problem of trying to pin down that elusive concept financial condition, or, more difficult still, financial distress. In preparing for this conference I reviewed the papers that came out of the 1978 working conference, and was much impressed with the quality of effort and thought being devoted to the subject. Given such effort, no doubt we will eventually reach satisfactory understandings in this field, but in the meantime, we have a problem.

The initial invitation to speak here today was framed in terms of my experience in the uses of financial condition information for state policy or as applied to state sector institutions. I declined to speak on that subject. Not only could I not tell you of "my experiences" in applying financial control data to state sector institutions, I don't even know how to go about it. In fact, I doubt the validity of such efforts. Rather, I suggested that the most I could do would be to present some questions which, at least for me, remain unanswered, and for which the answers are essential before we can apply to the state sector environment the techniques being developed by several of those assembled here.

Let me start out by saying that financial conditions or financial health indicators seem to me to be of two types.

1. Information for management-- Many of the techniques discussed at this and its predecessor conferences yield data and information which are useful to those involved in the management of institutions. Some financial indicator data may help the manager identify a problem, or understand a process that is active at his or her institution. On this dimension our progress is encouraging and steady.

2. Information for sponsors or investors-- The unmet need for financial condition information lies in our ability to adequately explain the condition of our institution to those who support or invest in it, in ways which will enable them to make informed judgments about continuing to invest, about increasing support, or (shudder) about terminating such support.

Whether the sponsors are individual donors, a church or a state legislature, the questions are coming with increasing frequency. My immediate problem is finding adequate indicators of the second type for use with state sector institutions.

All of us involved in this field owe an obvious debt to John Minter who has extended the techniques beyond anything else available before he began this work, and to Hans Jenny, who continues to challenge us to look beyond today's ledger sheets to improved ways of doing things. Minter's work has led to extraordinary "applied" progress, partially reflected in the recent publication of the self-assessment workbook by Dickmeyer and Hughes. Others have contributed to a more sophisticated type of progress, i.e., the interesting statistical work of Collier reported last year, and as further illuminated by Stenner. But through all of this work, I have yet been unable to identify a solid conceptual framework that describes the meaning of balance sheet based indicators for state sector institutions. By framework, I mean a theoretical description of the meaning of the indicators, not the numbers and not the techniques. Of course we can compute myriad ratios for all institutions, and I can relate, if only by analogy, to fund balance statistics derived from analytic techniques used in the business world in for-profit organizations. Even some of these analogoies are, of course, tenuous, but for state sector institutions, I simply cannot find the analogy. As an aside at this point, let me add that this conference, especially some hallway and over lunch conversations, give me encouragement. I am especially encouraged by the work to be reported here by Doug Collier.

To illustrate the problem I see, let me cite two examples. One institution with which I had opportunity to work some years ago had experienced some enrollment decline from a peak reached in 1967, but through 1976 the overall enrollment picture had been fairly stable. Faculty had been reduced, however, so that the student-faculty ratio showed a marked increase. (Is that increased efficiency or decreased quality?) But the institution had a financial picture that could hardly be more grim. There had been very sizeable annual deficits for each of the last six years. The unrestricted current assets to liability ratio, the acid test ratio exhibited the truly remarkable value of 0.07. (I note that John Minter is now expressing this statistic in the inverse, with liability as a percent of current assets: the corresponding value would be 1,482 percent.) The unrestricted working capital was a negative current balance equal to approximately 50 percent of the annual budget, and has been at that level for several years. Without worrying over the details, my point with this institution, my favorite example, is that clearly, obviously, without question, the institution was on the brink of demise. Au contraire! Three years later I can report to you that it is still there, still operating, that its financial statistics would look essentially unchanged from those described here, and the best guess I can make for you today is that four years from now it will be there and still be on the brink. Now

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in this instance, our attempt to project from our overwhelming financial statistical analysis was foiled by the intervention of a church and also, in this instance, of a federal program which together effectively said, in dollars and cents terms, that this institution shall not die. The question "Why not?" has never been answered, or, in fact, asked. Unit costs, program quality, and balance sheet notwithstanding, the institution will continue. This kind of thing leaves would be doomsayers such as myself with egg on their face, even in independent sector institutions.

But if this kind of problem can exist in the independent sector, where we might more reasonably expect an institution to live or die by its balance sheet, what we can do in the state sector where subsidization is the full name of the game. Consider the case of a hypothetical small institution, founded in the euphoria of the early sixties, and now already far ahead of the population curve in terms of declining enrollment. Enrollments are spiraling down, and unit costs are spiraling up. Now it is my job, obviously, to go to Representative Smith and Senator Jones and explain, politely, that "Gentlemen, I'm sorry, but you're just going to have to close down Pumpkin Patch State College here. You're going to have to give up local higher education services for your young people, give up one of your community's few potential attractions for more business, give up the local payroll, give up the various local economic ripple effects of the college's presence, because it is clearly uneconomic to continue to operate this institution in the present enrollment environment." Fat chance! The response is predictably going to be a call for increasing the subsidy to that institution to preserve its vital service to the region, and a concurrent call for a new director of the State Department of Higher Education who perhaps "has more vision as to what the state system can be."

Or consider the capital problem. Hans Jenny has told us over and over again how our accounting methods lead to our underfinancing ourselves because of our rather casual way of handling capital. But a state institution need not worry about that problem, which to me has always been something akin to building up a savings account against a future capital need. Rather, when it determines that it needs a new building (frequently even if it doesn't), it simply convinces the legislature, obtains the funds and builds the building. There is no problem of capitalization of earlier investments in the worn out or used up capital facility. And if the institution fails to convince the legislature, it simply "makes do." In passing we should note that most independent institutions really follow a similar process, only instead of the legislature, they convince their alumni, other donors, or foundations that the time has come when a new building is required.

Our future is clouded in higher education by several unknowns. Uncertain enrollments, pernicious inflation, and accelerating attacks on the social value of higher education certainly suggest that the future is less than clear. Critical to our future, I believe, is the degree to which we face up to our difficult challenges with an integrity of leadership within higher education, allowing higher education to provide leadership with integrity for American society. That will mean for some sponsors or investors, be they individuals, foundations, churches, states, or even federal agencies, that we must boldly confront the issue of "pulling the plug" on some institutions. Researchers like you can help us respond with clarity and courage if you can continue to perfect your art in the ways being discussed at this conference.

The point of my remarks here today is not to pretend to have told any of the experts here present anything they didn't know, but to challenge them to focus their research efforts toward improved techniques, of course, but also toward the development of conceptual framework which I can understand, which I can communicate to others without technical backgrounds, and which will enable real life policy makers to use the techniques you are developing. The problem of information for management is not solved, but is well along relative to the problem of information for sponsors or investors. I'm encouraged by your progress, however, and hope you find early success.

LEGISLATIVE USES OF FINANCIAL DATA FOR STATE POLICY MAKING

William D. Law, Jr.
Staff Director, Committee on Higher Education
Florida House of Representatives

While most of us are familiar with changing trends in the field of postsecondary education, changes associated with the manner in which state legislatures conduct their business may not be as readily apparent. One of the significant reforms of the past decade has been a marked change in the size and competencies of professional legislative staffs. The pattern of staffing committees with part time help in combination with district aides during the legislative session has been abandoned largely in favor of full time, professional staff, often with significant background in the field of the committee purview. As is often the case, this evolution may be viewed as both bane and blessing.

In the first instance, the emergence of legislative staffs provides the opportunity for a considerable amount of "meddling" from the viewpoint of agency personnel. Clearly much more time is currently spent by institutional and agency staff in responding to requests for information to support proposed legislation or interim projects and studies. The performance of legislative oversight to monitor compliance with existing law also exacts a toll among those who must respond from the field. Absent the development of suitable professional working relationships, the presence of legislative staff personnel can indeed be a bane.

On balance, however, professional legislative staffing should provide an opportunity for continuous refinement of the understandings of the complexity of postsecondary education and the futility involved in the proposal of simple solutions to problems.

The use of financial measures at the legislative level is one such opportunity. Florida, like every state in the nation, has experienced a staggering growth rate in the past two decades, and has moved agressively to meet the demand of the citizenry for access to postsecondary education. (Specifically, we have built six universities and twenty-three community colleges in that period; university enrollment has gone from just over twenty-thousand students to more than one-hundred-twenty-thousand students.) Unfortunately, as one of the sunbelt states, we find ourselves continuing to expend a major portion of our efforts and new resources to accomodate additional demand for postsecondary education, most particularly in developing our urban centers. The full impact of this continuing effort - displayed in terms of real dollars per student - is just beginning to be appreciated by the elected representatives. The expectation that an increasingly qualitative atmosphere would begin to emerge from these newly founded institutions (as well as from the long standing state universities) is being examined in light of the desire to remain responsive to the general populace on the subject of easy access.

Suitable resolution of the apparent dichotomy between access and quality - which may well be generalized to other states - points to the need for the continued development of measures which can provide appropriate insight and information to assist in policy decisions at the legislative level. Legislative staffs, working with educational professionals, must identify those measures most meaningful for policy decisions.

A word of caution is necessary here. Much of the work that has been completed to date on development of financial measures has been targeted for the use of institutional or systemwide administrators. The utility of these efforts - at the level for which they have been targeted - cannot be underestimated. At the same time, to transport institutional measures to the legislative level may be both confusing and counterproductive.

To the extent that Florida is like other states, the following inititatives would likely produce the most beneficial results at the legislative level:

1) indicators which can clearly relate to fulfillment of the stated role and mission of the institution in comparison to other institutions, and indicators are paramount for institutions which have a primary mission of undergraduate instruction - one of the least understood areas of college and university operations;

2) indicators which relate to specific, targeted efforts to achieve quality in university operations; given the competition for state resources, the likelihood of receiving funds to bail out college and university problem areas is very low.

One final area of exploration with legislators and legislative staff may relate to the beneficial use of financial measures. From a cursory review of professional literature, one senses that the consensus approach for overcoming the difficulty of enrollment driven funding formulas is "program budgeting." One further senses that a wide variety of opinion exists over the operational definition for a program budget. Certainly, this is the case for Florida. I would surmise that when all is said and done, what is really desired by those who must make funding decisions is an array of indicators which, when taken as a whole, can provide a more descriptive profile of resource utilization in our postsecondary institutions than is currently provided.

In the final analysis, your work must assist legislative leaders in understanding how they can better assist in responding to societal needs.

SELF-ASSESSMENT OF THE FINANCIAL CONDITION OF SMALL INDEPENDENT INSTITUTIONS

Nathan Dickmeyer
Director, Financial Conditions Project
American Council on Education

K. Scott Hughes
Director, Financial Management Center
National Association of College
and University Business Officers

To some extent, it is not difficult to analyze the financial strength of a small independent college; astute business officers have been doing so for generations. In general, they look at how much cash is in the bank now compared with last month, or last year; trends in applications and enrollments; the competiveness of faculty salaries; the condition of the college plant; and the use of available fund balances.

This article describes (1) how and why a workbook for assessing an institution's financial condition was designed and (2) the basic institutional resources framework which provides the model for the workbook's statistics.

This effort has been supported by the Office on Education's National Center for Education Statistics through the American Institute for Research in the Behavioral Sciences, and has been guided by a task force of NACUBO small college representatives, researchers, and consultants. Essential to the development of the workbook has been the cooperation of eight small colleges that served as test sites for earlier versions of the manual. These tests improved the relevance, clarity, and reliability of the measures describing the financial strengths and weaknesses of small colleges.

The Office of Education has supported the work because of its need for a concise explanation of the methods used by experienced business managers to assess small college financial strengths and weaknesses. Office of Education program officers need to be able to gauge the financial impact of their programs on individual schools, and thus a workbook approach was selected because of the recognition that no single statistic could reveal financial condition. The workbook was designed to show trends in financial conditions in the context of the many factors which influence them. Too simplistic an approach was explicity avoided.

The method of exploring statistics was linked directly to the experience of task force members. Specific strengths and weaknesses (like an inability to respond to enrollment fluctuations) were put forward, and many statistics were tested to find which ones best separated schools with a weakness in an area from schools which were strong in that area. This process required many iterations of finding problems and testing statistics using actual data. From the process a framework emerged which put the measurement of financial resources at the focus of the analysis.

The statistics presented in the workbook were selected for several reasons. First, they were usually readily available from the institution's own records. (If they were not, the college's management information system may itself be a weakness.)

Second, they were selected to cover a broad spectrum of the college's activities to give a picture of the college's financial well-being. To be financially healthy, a college should have the financial flexibility to respond to changes in the political, social, and economic environment in which it exists. Inflation, increasing regulatory requirements, declining enrollments, increasing tenure ratios, and changing student academic interests are some of the pressures that may adversely affect a college. The institution must have and must use its capacity to adjust its resources to best meet these pressures.

Framework for Financial Condition Assessment

The major premise of the framework is that a college's overall condition can be meaningfully characterized by measuring available resources, trends in these resources, and the institution's special needs for these resources. The focus is on financial resources, but other resources such as faculty, students, fixed assets, and programmatic resources are examined as well. An institution's financial status is difficult to evaluate; changes in one type of resource, such as cash in the bank, may foreshadow or predict changes in other resources, such as new building construction. The interrelationships that exist among financial resources require a comprehensive examination of the institution's total financial structure.

The workbook's focus is on financial resources, largely because of the belief that internal and external decisions and events affect these resources first. Hence, a clear understanding of the trends and the condition of financial resources is important to the early detection of any institutional decline. Of course, this focus also benefits from the objectivity of many financial indicators.

The amount and condition of an institution's resources are partially determined by internal factors such as policy decisions and their implementations. The amount and condition of resources are also determined by external factors such as inflation and income availability. Thus, resource measures are symptoms of those internal and external factors that are the causes of institutional decline or improvement.

Accumulated financial wealth is of great importance to small independent colleges. A sufficient store of available funds gives an institution the ability to react to changes in the environment. An institution with sufficient financial resources can withstand adverse trends and has the flexibility to institute changes at opportune moments to reverse the trends. Institutions with sufficient financial resources can experiment with their mission or program with minimal concern that increased costs will curtail their entire operation.

There is no claim that adequate financial resources are indicative of the desire to innovate or make changes; such resources merely provide the opportunity to weather storms and experiment where possible without jeopardizing the institution's future. Institutions with limited financial resources may still experiment, but at greater risk than more financially resourceful institutions with more resources.

The necessary level of financial resources is partially determined by a set of factors that causes the institution to be inherently exposed to risk. These factors determine the size and type of institutional financial resources necessary to provide flexibility and protection from adverse trends.

Ideas incorporated into the workbook include:

(1) Recognition that highly volatile income sources, such as restricted revenues, require the institution to buffer itself with greater financial resources. The more dependent an institution is on uncertain funds, the greater the need for more financial resources.

(2) The concept that greater financial resources are necessary for institutions with a large proportion of their budgets committed to relatively fixed expenses, such as debt service and salaries of tenured faculty. These institutions must balance the inflexibility of their expenses, such as debt service and salaries of tenured faculty, with the flexibility of financial resources.

(3) The concept that resources other than financial ones may also bear the brunt of external or internal pressures. The number and quality of the faculty, students, program offerings, and the condition of buildings are examples of institutional resources that affect the institution's financial condition.

These major factors have been built into the self-assessment workbook and are the basis for the statistics that have been selected. Following are more detailed descriptions of the four broad analytic categories.

Financial Strength

In the research that led to the workbook, several excellent proxies were found that approximate the institution's financial resource levels and their trends. These proxies or statistics estimate the relative ability of the institution to take risks. For example, the statistic used to estimate long-term financial resources is the ratio of the institution's endowment market value to total operating expenses. This ratio provides a useful proxy measure for estimating the adequacy of the institution's capital base and how it has changed.

In the intermediate term, the ratio of the sum of the fund balances for the current fund and the quasi-endowment fund to total operating expenses is used to evalute the institution's overall available reserves.

In the short-term, the assets and the liabilities of the current fund are examined. The ratio of current fund assets to liabilities gives an indication of the immediate ability of the institution to pay its most pressing debts. Ratios below 1.0 indicate that the institution lacks current assets to pay immediate bills.

Estimated Risk

Also developed are useful proxies for estimating the risk exposure of the institution. The more the institution is exposed to financial risk, the greater the need for increased financial resources. In the long run, the ratio of long-term debt to total revenue is a useful proxy for measuring the institution's commitment to continuing payments in proportion to its revenue sources.

For the immediate term, the ratio of restricted income to total income, and the ratio of fixed commitments (such as tenured faculty salaries and debt payments) to total revenue are used. Many restricted revenues are short-term while tenured faculty and debt service are not. Heavy reliance on restricted revenues generally constitutes increased exposure to financial risk.

There are two proxies for short-term financial risk: acceptance rate and short-term debt to annual revenue. The higher an institution's acceptance rate, the greater the risk that a change in the avialability of students will cause a decline in enrollments and tuition revenues. The debt to revenue measure shows the risk that the institution will not be able to pay pressing commitments with its yearly revenue stream.

Changes Affecting Financial Resources

Essential to the diagnosis of financial condition is the examination of the factors which cause decline or expansion of resources. Net real tuition revenue trends indicate the institution's ability to continue drawing support from students. Private gifts, government support, and endowment income as proportions of overall revenue indicate important trends in the ability of the institution to capture resources and the ability of the environment to provide this support. Finally, the pressure of cost increases and the ability of the institution to sucessfully manage these pressures are indicated by the trends in total real costs per student.

Changes in Nonfinancial Resources

Also identified are proxies that measure changes in nonfinancial resources. For example, the real value of average faculty salaries focuses on the faculty as a resource. The institution's priority for the instruction program as a resource can be monitored by calculating the proportion of the budget expended for instruction. Real instruction cost per student is another measure which is of importance. Freshman entrance test scores are useful indicators of the changes in student resources. Finally, estimates of deferred maintenance give an approximate indication of changes in the effort to maintain physical resources in good conditon.

The Workbook

The strength of the workbook lies not in the number of indicators presented, but in the supporting theory and the logic of their interconnection and meaning. Thus, the theory and framework of the evaluation process needs to be understood before actual evaluation begins. The theory and framework are composed of three separate analytic steps or tiers. The first involves examination of a limited number of easily calculated statistics. If the statistics suggest a sound financial condition, there is no need to continue the analysis. However, if the statistics reflect the possibility of financial difficulty, the second tier provides a systematic method for expanding the analysis to the causes of financial concern. The second level begins a diagnostic process that suggests the specific causes of financial concern. The third tier describes possible management improvement techniques that may prove helpful in correcting deficiencies identified in the prior analysis.

The workbook contains worksheets used for calculating the statistics of the first tier. Each statistic's purpose and significance are explained, with a step-by-step method of the calculation. A set of definitions is also provided to facilitate data gathering. Once the statistic has been calculated, the workbook format provides the opportunity to explain the significance of the value of the statistic. Peer group information is also presented.

The description of the second and third tiers has not been completed, but will be developed in subsequent research efforts, to be presented in a separate document.

Limitations

Before beginning the self-assessment of a college's financial condition, a number of qualifications need to be explained. No technique provides perfect measurements; in some cases the statistics described in the workbook design may prove inadequate for a particular college.

Some specific limitations:

1) The statistics should not be taken at face value. For each statistic one should try to understand why it has the value it has; the assumptions should be written. If this is done for each statistic, a pattern may develop; conversely, some assumptions may be seen as inconsistent and may need to be rethought.

2) Comparison of an institution's statistics with those of peer institutions should not be assumed to automatically indicate a good, bad, or average condition. For example, if 90 percent of current fund revenues are from tuition, and an institution's group averages only 65 percent, that institution is not automatically in a financially weak position. The statistical comparison does indicate, however, that the institution's dependence on tuition should be explored further to better understand the differences.

3) This self-assessment methodology is not an appropriate means for the allocation of funds by external agencies such as governmental bodies or private foundations. The sole intent of the workbook approach is to provide an analytic tool that institutional officers can use for evaluating their college's financial condition.

4) The workbook is limited in that it looks only at the college's financial condition. The statistics identified here should be incorporated into an overall evaluation of the institution's mission, academic program offerings, recruitment efforts, financial aid offerings, student counseling, etc.

5) At this stage of the workbook's development, only a limited number of colleges have used the material. The design is experimental; subsequent editions will be more complete, with peer group information provided for further analysis of the significance of the statistics.

6) Statistics are the shadows on the wall of the cave; they can only provide reflections of the complex reality of what is happening in the college. Reality must include the experience and wisdom of the college's trustees and officers who interpret and use the statistics for the betterment of the college.

7) Finally, the statistics developed with the workbook are simple by design. While simplicity is a virtue, the statistics can be only rough approximations. The uniqueness of the college will not be readily seen in the statistics. Again, interpretation by the college's trustees and officers is the only way this workbook approach can be helpful.

CRITICAL ASSESSMENT OF WHAT IS NEEDED NOW: PERCEPTIONS OF THE BUSINESS OFFICER

D. Francis Finn
Executive Vice President
National Association of College and University Business Officers

There are several questions that need to be asked. Is it all worth it? Are we simply building more accurate thermostats or are we fixing the furnace? How are indicators going to help us?

Indicators should deal with two distinct levels: 1) the national or state level, and 2) the institutional level. At each level it is legitimate to wonder whether the indicators only show where there are problems or whether they are useful. We must continually concern ourselves with how useful the indicators are; if the indicators are causing changes and making the information more useful.

Finally, we must be concerned that the indicators are valid. We must assure ourselves that the data is accurate, the methodology is sound, the caveats are clearly specified, and that we are comparing like things.

measures of financial condition was the use of "expert assessments" to classify institutions as being either in strong or weak condition. Most earlier studies had simply hypothesized the indicators that were used in making financial condition assessments; almost none of those efforts had attempted to validate the indicators they used to ensure that they were indeed true measures of financial condition. The one study that did make such an attempt was the 1976 work of Andrew Lupton and John Augenblick, the results of which were widely publicized in Change magazine. While the Lupton and Augenblick study was widely criticized for errors in both research design and statistical interpretation, as well as for the inappropriate use of the resulting indicators, it did represent a first attempt to validate indicators prior to using them. In both the Collier-Patrick study and the Lupton-Augenblick study, the ratings of "expert judges" were used as the criterion for validating indicators. However, the Lupton-Augenblick study used an approach for obtaining their ratings that left those ratings open to considerable criticism. (In fact, the way in which they collected expert ratings was seen by most researchers as totally invalidating the results of their study.) Collier and Patrick attempted to improve upon the approach used by Lupton-Augenblick in this area by expanding the number of judges used and by ensuring that the judges, prior to making their assessments, knew something about the finances of the institutions they were rating. However, neither the Collier-Patrick study nor the Lupton-Augenblick study used any single definition of financial condition that the judges were considering the same thing when making their assessments. It is suggested in this paper that the omission of a definition of financial condition when collecting expert ratings is a major flaw in the design of both of these research projects. A definition and its use in validating indicators is a primary topic of discussion in this paper.

Both the Lupton-Augenblick study and the Collier-Patrick study used multi-variate statistics in attempting to validate indicators as true measures of financial condition. The Lupton-Augenblick study, however, allowed the statistical methodology itself to select (from a list of unorganized measures) indicators of weak and strong financial condition. Collier and Patrick tried to correct for the shortcomings of this "statistics-driven" approach by using the framework of financial condition dimensions. Collier-Patrick used the framework to ensure that the indicators were also intuitively descriptive of what was being analyzed. Since neither study believed that a single indicator could be found which predicted overall financial condition, both studies relied upon multivariate statistics to take into account a multi-dimensional financial condition concept.

Just as the 1978 Collier-Patrick project can be viewed as a refinement of the 1976 work done by Lupton and Augenblick, this

ASSESSING FINANCIAL DISTRESS IN COLLEGES AND UNIVERSITIES

Douglas J. Collier
Senior Staff Associate,
National Center for Higher Education Management Systems

Introduction

A study was conducted in 1978 (and referred to hereafter as the Collier-Patrick study) intended to develop indicators of institutional financial condition for higher education institutions. The approach used in the Collier-Patrick study can be characterized in the following way:

1. The entire study was based upon a concept of "financial condition" which was defined as being strictly financial in nature (i.e., it limited consideration to the financial implications of such non-financial factors as student enrollments and program quality). This approach differed from several earlier studies which considered "program quality" to be an integral part of an institution's financial condition. While the Collier-Patrick study accepted the fact that program quality trade-offs could be made in the interest of improved financial viability, it assumed program quality to be a separate issue to be studied separately rather than as a part of a study of financial condition.

2. The Collier-Patrick Study developed a framework to reflect the various "dimensions" of financial condition. The framework was designed as a way of defining financial condition. Therefore if one institution were considered to be stronger or weaker than another institution along these dimensions included in the framework, then that institution's "financial condition" would be considered stronger or weaker. The dimensions of the Collier-Patrick framework included "financial independence," "revenue drawing power," risk," "revenue stability," "financial flexibility," and "reserve strength."

3. Quantifiable indicators were identified which could be used to measure change along each dimension of the framework. These indicators were intended to correspond to the definitions of each dimension although they were ultimately defined in terms of what was feasible given the capabilities of HEGIS data.

4. The Collier-Patrick study then constructed each of the indicators using HEGIS data and tested them to determine whether or not they discriminated between strong and weak institutions. A key element of this attempt to validate the indicators as being true

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paper can be seen as a description of proposed refinements to the Collier-Patrick study. This paper reflects additional thinking regarding how the development of financial condition indicators might be carried out. While these ideas are not being touted as solutions to all of the many problems that have for so long frustrated researchers in this area, they are described here in the hope they will serve both as potential refinements in previous work and as food for further thought and discussion.

The Definitional Problem

It is suggested in this paper that one of the major shortcomings of both the Lupton-Augenblick study and the Collier-Patrick study is that neither study addressed (or solved) what will be referred to as "the definitional problem." The definitional problem suggests that unless a definition of financial condition is used in identifying and developing financial condition indicators, the resulting indicators will be meaningless. Both the Collier-Patrick study and the Lupton-Augenblick study used expert ratings as the criterion against which indicators were selected and validated. However neither study told the experts prior to obtaining their financial condition ratings what it was that they were supposed to be assessing. The experts were allowed to define "financial condition" in any way they desired. This shortcoming has led many researchers to criticize the use of expert ratings in validating financial condition indicators. However, this author submits that it is the existence of the definitional problem, rather than the use of expert ratings *per se*, that results in invalid indicators. (Further discussion of the use of expert ratings is included at a later point in this paper.)

It is this author's opinion that no real progress can be made in the development of indicators of institutional financial condition until an understandable and operational definition of "something" (i.e., financial health, financial condition, financial distress) can be generally agreed upon as the basis for both identifying and validating those indicators.

This statement is not meant to suggest that researchers have not used definitions in the past. Such terms as "financial difficulty," "financial health," "financial distress," "financial condition" have been used (and sometimes defined) in the past. In one of the earliest studies in the field, Earl Cheit (*The New Depression in Higher Education*, 1971)[1] defined institutions as being in financial difficulty if they were unable, due to financial constraints, to achieve the goals their administrators wanted to accomplish. Obviously, Cheit's definition depended almost totally on the nature and level of an institution's expectations. Therefore, in a follow-up study[2], conducted after a few years of exposure to the "new environment" in higher education (which presumably was sufficient time for institutional administrators to recognize the nature of the limitations under which they would have to operate in this new environment), Cheit found, using his definition, that fewer schools felt they were experiencing financial difficulty than had been the case in the first study. More importantly, from the perspective of indicators development, Cheit's definition would be inappropriate because it could not be applied across a broad range of institutions (although this was not the purpose for which Cheit developed it).

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[1] Cheit, *The New Depression in Higher Education: A Study of Financial Conditions at 41 Colleges and Universities*. New York: McGraw-Hill, 1971.

[2] Cheit, E.F. *The New Depression in Higher Education: Two Years Later*. Berkeley: The Carnegie Commission on Higher Education, 1973.

A second definition of financial condition was developed and used by the National Commission on the Financing of Postsecondary Education in its work. The Commission's definition suggested that financial distress would exist in the postsectondary education enterprise "when the lack of money or other resources prevented the desired degree of achievement of national objectives."[3] Once again, this definition is not only subjective (i.e., what is the "desired" level of achievement?) but it focuses on the postsecondary education enterprise as a whole rather than upon individual institutions within the enterprise. Both Hans Jenny and John Minter have argued that financial condition is a concept which can only be measured on an institution-by-institution basis. While it is possible to determine the condition of the "enterprise," such a determination can only be made by aggregating the individual assessments of financial condition for the various institutions which comprise the postsecondary education enterprise (e.g., "10% of the institutions in the postsecondary education enterprise are experiencing some form of financial distress" is one way of describing the condition of the enterprise as an aggregate of multiple institutional assessments). In reinforcing the views of Jenny and Minter, attempts by this author to look at the financial condition of the enterprise have always led back to the need to first consider individual institutions.

A third definitional approach to financial conditon has been the use of receivership or bankruptcy and subsequent closure as the criterion for defining financial distress. This approach is often referred to as "defining the brink" (i.e., how close to, or far away from, the brink of disaster is an institution). While it has been suggested many times as a criterion for defining financial conditon, it has seldom been used in actual studies because insufficient numbers of higher education institutions close, or go into receivership, to provide the needed data. Furthermore, the data for those institutions which do experience such extreme forms of distress are typically so bad, or even non-existent, that no meaningful analyses can be conducted. While a bankruptcy-based criterion may make sense in the business world where a lack of sufficient revenues quickly leads to financial disaster, such a notion of financial distress ignores the unique nature of higher education finance. In particular, it ignores the role such non-sales-generated revenues as private gifts and endowment income play in private colleges. Therefore the author suggests that defining financial condition in terms of "distance away from the brink of disaster" is not a meaningful approach given the nature of higher education finance.

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[3] National Commission on the Financing of Postsecondary Education, Financing Postsecondary Education in the United States. (Washington, D.C. 1973), p. 18.

The Definitional Problem: Recommendations

It has already been emphasized that a definition (or at least some means of dealing with what was referred to as "the definitional problem") is needed before research on the development of indicators of financial condition can be effectively conducted. Therefore the following represents a set of recommendations for addressing the definitional problem.

Recommendation #1: Forms of Distress

The first recommendation relates to how one would define the concept of financial conditon in order to allow for its study. It is suggested that it is probably a fruitless exercise to attempt to define "financial health." While physicians often debate the definition of "health" from a theoretical perspective, they have never been able to agree upon what is meant by healthy or unhealthy. Rather they exert almost all of their efforts and energies to dealing with the "illnesses" that affect human beings. Similarly, while economic policy-makers are constantly concerned with the "health" of the economy, the decisions they make are intended to affect such "illnesses" of the economy as unemployment, high inflation, or an unfavorable balance of trade. It can certainly be argued that, perhaps, the treatment of both human and economic illnesses might well be improved if they were treated in the context of what was defined as being "healthy." However, it seems increasingly true (at least in talking about the economy) that, as circumstances and expectations change, what was considered unhealthy at one point in time is often considered healthy at some later time. For example, no one ten years ago would have considered 7% inflation and 5% unemployment to be indicative of a healthy economy and yet when faced with today's stagflation, most would welcome such economic "health." It is this author's contention that health is a largely subjective concept, one which is affected in large part by expectations and circumstances.

What is recommended, therefore, is that research on institutional financial condition focus on the "financial illness" which afflicts colleges and universities. Such a "distress-oriented" focus, in which various forms of financial distress would be identified, not only represents a more feasible approach to the definitional problem but will provide policy-makers a way of viewing institutional financial condition which they can more easily understand and deal with. Knowing the nature of the institution's problem (i.e., its form of distress) gives the policy-maker an ability to design interventions which deal with the problem more effectively than knowing only that the institution is "in distress." Additionally, knowing that an institution is experiencing "working capital distress," for example, suggests a completely different set of intervention strategies than knowing that it is experiencing "financial flexibility distress." For example, if it is known that an institution is experiencing a "working capital" distress rather than financial flexibility distress, policy-makers will be able to design a strategy which deals with the institution's need for operating funds rather than for a larger proportion of unrestricted funds. The "forms of distress" approach to the definitional problem should not only be more meaningful for policy-makers, but it is also one which is equally applicable to both independent and public institutions. One of the bigger stumbling blocks faced by researchers in financial condition is determing how to deal with the financial condition of public institutions. Those researchers who have relied upon the "brink concept" of financial distress have even concluded that it is a meaningless exercise in the public sector because public institutions don't go bankrupt. These researchers have argued quite effectively that as long as the state government itself is so solvent, public institutions in that state will not go out of business (except as the result of a political decision). It is this kind of logic, based upon the brink concept of financial condition, that has resulted in the widespread belief that studying financial condition for public institutions is a fruitless exercise. However this author suggests that many public institutions, while not necessarily in danger of going bankrupt, are experiencing one or more forms of distress. While the indicators needed to identify distress forms may differ between the public and private sectors, the same distress forms exist in both.

While a great deal of work will be needed before generally accepted definitions of the various forms of distress can be developed, the following set of distress forms, with related definitions, is described below to begin the discussion. The following set of forms of distress is offered for illustrative purposes only:

1. Working Capital Distress - This form of distress exists when an institution has insufficient expendable assets to support its day-to-day operating needs. The degree of distress being faced by the institution depends upon its ability, or lack of ability, to obtain such operating funds. For example, if the institution is short on operating funds but has both credit and sufficient collateral to allow it to borrow such funds, a lesser degree of distress exists than if there is no apparent way of obtaining the needed operating funds.

2. Demand-Related Distress - This form of distress occurs when the demand for the institution's programs and services has dropped to such a point that revenues from the "sale" of such services (e.g., tuition and fee revenues, research grant revenues) cannot provide their historical share of the institutions total revenues*. Even if the institution has sufficient non-sales-related revenue (e.g., endowment income, gifts) to offset this "demand-related" shortfall, the institution should be considered to be experiencing a demand-related form of distress.

3. Non-Sales-Related Revenue Distress - While demand-related distress focuses on the instituion's ability to derive revenue from the "sale" of its programs and services, this type of distress occurs when an institution is unable to realize historical levels of non-sales-related revenues. For private colleges, the largest sources of this type of revenue are gifts and endowment income. For public institutions, the most significant source of such revenue is typically the state appropriation. If an institution is unable to maintain historical proportions of this type of revenue, additional pressure will be placed on its sales-related revenue sources (as is now being evidenced by the fact that both public and private institutions are being forced to raise student tuition prices to such high levels that the "demand" for instructional programs is being severely tested). Therefore an institution which cannot realize its historical contribution to total revenues from such non-sales-related sources will be considered to be experiencing this form of distress, even if sales-related revenues are presently able to take up the slack.

4. Financial Flexibility Distress - This form of distress exists when an institution's financial resources are so severely restricted for particular purposes that the institution has no flexibility regarding their use. In the rapidly changing environment college administrators are now facing, this type of distress is a very real problem. It is also a form of distress which requires that policy-makers design totally different kinds of intervention strategies to deal with it than the increase in restricted revenues approach they now use so often.

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* Both the "demand-related revenue" and "non-sales-related revenue" forms of distress have been defined as the ability of those types of revenue to provide their historical share of that particular institution's total revenues. This approach is suggested to avoid the need to determine some absolute level of support that an institution ought to receive from a particular source of support. However, it is recognized that more precision will be needed in all of these definitions before they can be used to make actual financial distress assessments.

Recommendation #2: Responses to Distress

Earlier in the discussion it was suggested that the concept of bankruptcy or insolvency (described as the "brink concept") was not viable when talking about financial distress in colleges and universities. One of the reasons given for making this assertion was that it ignored the realities of higher education finance. However, the second reason given was that it does not help policy-makers (particularly those at the state and federal levels) in identifying which of the distressed institutions to help. In other words, the brink concept does not aid policy-makers in understanding the significance of financial distress as it affects the various institutions within higher education.

The following discussion of significance addresses itself primarily to the concerns of the state or federal level policy-maker who must deal with multiple institutions. Obviously, from the perspective of the institutional-level policy-maker, how far away the institution is from the brink of extinction is a cogent question (assuming that institutional survival is one of the goals of the institutional policy-maker). However this discussion assumes that institutional survival per se is not a primary concern to policy-makers who deal with multiple institutions. Rather it assumes that an institution's survival is only significant to the extent that the institution is contributing something to the accomplishment of some desired goal. Therefore, if a policy-maker was to determine that a particular institution (or group of institutions) was experiencing some form of distress, that knowledge would only be significant if both of the following conditions are met:

1. The institution(s) experiencing that distress is contributing in some way to the achievement of a goal valued by the policy-maker and
2. The particular form of distress being experienced by the institution detracts from its ability to contribute to the achievement of the goal.

This criterion for significance suggests that one must evaluate both the significance of the institution experiencing the distress and the relationship of the form of distress it is experiencing to the accomplishment of desired objectives.

The determination of a particular institution's significance can be accomplished by assessing what it is that the institution does that is valued by the policy-maker: a relatively straightforward process. However, understanding how the form of distress it is experiencing affects its ability to contribute to valued goals is a more difficult task. One way of understanding the relationship between distress forms and the contribution to goals is to study the responses institutions make to various forms of distress. For example, if an institution's response to a low level of "working capital distress" is to simply borrow more short-term money (and such borrowings do not affect the institution's ability to effectively carry out its educational mission or to accomplish other objectives valued by the policy-maker), then the policy-maker will likely not consider such a level of this form of financial distress significant. On the other hand, if an institution has such a severe case of "working capital distress" that it is forced to cut back programs, the same policy-maker might consider the situation to be extremely significant, depending upon which programs are affected and the value he/she places on those programs.

The link between institutional responses and ability to contribute to goals will not always be simple and straightforward. While some obvious linkages can be hypothesized (e.g., a response to distress which included cutting back student scholarship support levels would have a clear link with a goal of student access), other linkages will be less clear. Therefore, this recommendation requires that additional study be carried out to understand:

1. the linkages that exist between various forms of distress and the institutional responses to distress and

2. the linkages that exist between institutional responses to distress and the ability of institutions to contribute to particular state and federal-level goals.

An identification of the kinds of responses institutions make to financial distress will need to be carried out prior to any attempt to relate those responses to particular forms of distress. The list of responses outlined below is once again provided for illustrative purposes only and in hopes of stimulating further discussion of the concept:

- the necessity of drawing upon reserve funds to support operations

- the inability to adequately finance the necessary maintenance of physical plant and equipment

- the inability to purchase the amount and kinds of library books and supplies needed to adequately support the institution's educational programs

- the inability of the institution to keep faculty and staff salary scales growing at a pace which keeps up with inflation (including the freezing of staff salary scales)

- a reduction in the number of faculty or staff positions (including the conversion of full time to part-time positions)

- the need to close down programs as a result of financial constraints

The Validation Problem

The second area in which both the Collier-Patrick study and the Lupton-Augenblick study are vulnerable to criticism is the way in which they validated indicators as being true measures of change in institutional financial condition. Both the Lupton-Augenblick study and the Collier-Patrick study attempted to validate their hypothesized indicators by showing (statistically) that a set of discriminant function equations (based on indicators for a sample of institutions) were highly correlated with the financial condition ratings for those same institutions (those ratings being made by a group of "experts").

Both studies used multivariate discriminant analysis to determine which of the indicators were good predictors of the expert ratings (i.e., which indicators were valid indicators). While the Collier-Patrick study performed a number of intercorrelations of the individual indicators prior to entering them into the discriminant equations, this was not seen as a significant improvement over the Lupton-Augenblick study. In both instances, a weighted composite index was derived from the statistical analysis which could have been used to "predict" the financial condition of other institutions.

The key to the validation process in both of these studies was that the judgement of experts was used as the criterion against which proposed indicators were validated. Therefore, if one were able to find fault with the experts' judgments, one could attribute equal fault to the set of "valuable indicators."

Recommendation #3: Use of Intuitive Constructs

Given the complex and multi-dimensional nature of institutional financial condition, this author suggests that it is unrealistic to assume that a single, univariate statistic can capture that complexity. Therefore it seems essential that multivariate statistics be used to take into account the interrelationships that exist among the component parts of an institution's condition.

A second concern over the use of multivariate statistics seems to revolve around the fear that the resulting indicators will be so complex that policy-makers will be unable to understand how changes in the component parts cause the overall index to change. The persons who voice this concern generally have no problem in understanding that the Consumer Price Index (CPI) changes by 1% in a year even though no single item within the index (i.e., component part) changed by 1% during that period. The reason they understand the CPI is that they understand the concept of a "market basket" and they know, generally, how a number of different changes in individual prices work together to create an overall composite change.

The fact that almost no one knows how the CPI is actually put together, in a statistical sense, doesn't detract from the utility of that index. It can be pointed out that the composite financial condition index derived through multivariate statistical analysis is no different than the weighted total which makes up the CPI. However this example does point to the need to ensure that the invididual ratios and measures which serve as the component parts for the composite index hold together in some intuitive way. The Collier-Patrick study tried to use the financial dimensions framework as the "intuitive glue" holding the composite indices together. One of the primary weaknesses of the Lupton-Augenblick study is that no such intuitive way of thinking about the component parts of the multivariate indices was provided. Therefore the indices themselves appeared to be the result of some "statistical concoction" which could neither be explained nor intuitively understood. It is suggested that all subsequent users of multivariate statistics should be aware of the need for conceptual cohesiveness and should do everything possible to ensure that the resulting indices can be both explained and intuitively understood.

Recommendation #4: Accreditation-Type Visits by Trained Experts

The second part of the validation problem is: how does one obtain a meaningful criterion against which indicators can be validated? Both Lupton-Augenblick and Collier-Patrick used "expert ratings" as the criterion against which indicators would be validated. As has been discussed at length already, one of the biggest problems confronting both studies was the definitional problem. Unfortunately neither study solved the problem. This paper suggests that a solution similar to recommendation #1 might aid in addressing the definitional problem. If the definitional problem can be solved, the remaining problems to be solved are: (1) whether or not experts can determine if financial distress exists in an institution (given that they are using a definition of what to look for); and (2) whether or not different experts can agree that the same level of distress exists for the same institution.

In response to the first problem, it can be argued that accreditation teams have been making assessments regarding the financial condition of institutions for years. These accreditation teams have relied on quantitative analyses of institutional data combined with the qualitative judgments they make after conducting site visits and extensive interviews. This author suggests that, under these same accreditation-type conditions, experts trained in both what to look for and how to look for it can make meaningful assessments of an institution's financial condition. However, the second part of this statement should be emphasized. While solving the definitional problem will address the "what" question, the experts must also be trained in "how" to look for strengths and weaknesses if their ratings are to be meaningful. Just as a hospital's internship program is intended to teach doctors how to look for the types of illness they learn about in the classroom, effective assessments of institutional financial condition will rest, in large part, upon how well the experts are able to discern distress (or lack of distress) when they see it. Therefore while accreditation-type visits are suggested as a means of obtaining meaningful assessments of financial condition, such visits must be conducted by trained experts.

The second problem to be resolved relates to the consistency of ratings when they are provided by different experts. The results of an accreditation-type visit are not worthwhile if individual ratings vary significantly depending upon who conducts the visit. There are a number of ways of ensuring such "interrater reliability." One possible solution is to provide for rigorous training of the evaluators so that all persons involved in assessing the existence of distress are looking for the same thing. A second way is to provide the evaluators with specific guidelines for making an assessment. These guidelines should include not only detailed definitional guidance but would also point out specific "clues" to look for in identifying various forms of distress and questions to ask in uncovering such clues. Finally the evaluators should be given precise guidelines for actually making ratings.

While these recommendations are very specific, the main point the author is attempting to make is that financial distress can be identified and evaluated under the right conditions. They are also intended to describe how the use of expert ratings might be improved upon so that they can be used as a meaningful validation criterion. It is the contention of this author that a validation procedure must be carried out if indicators are to be developed which can be used in assessing the condition of multiple institutions. While the self-assessment approach (in which institutions use a number of descriptive indicators to highlight potential problems in a variety of areas) is certainly a valid and useful way for individual institutions to look at their own financial condition, this same approach is not useful for the more aggregate-level policy-maker. Policy-makers at the state and federal levels (or anyone who must deal with multiple institutions) must be able to highlight problems for a large number of institutions easily and accurately. A set of validated financial condition "indicators" hold the most promise for such needs,

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HIGHER EDUCATION FINANCING IN THE STATES

Marilyn McCoy
Senior Associate

National Center for Higher Education Management Systems

Discussions about the adequacy of state funding for higher education most commonly focus on rankings of the states in terms of appropriations per capita. States with high appropriations per capita are typically judged to be generous in their support while those with rankings near the bottom are considered poor. In a new report Financing Higher Education in the Fifty States, Interstate Comparisons FY76, about to be released by the National Institute of Education (NIE), authors Marilyn McCoy (NCHEMS) and D. Kent Halstead (NIE) demonstrate the inadequacies of such a limited approach to accountability among states. Their analysis shows that a singluar focus on funding levels alone without reference to the relative need for support and the ability of the state to furnish such monies is likely to lead to erroneous conclusions.

Beyond Appropriations Per Capita

The dangers of such a one-dimensional approach are most visibly illustrated by reference to the five states ranking lowest in the amount of appropriations per capita spent on higher education. Of these, only Massachusetts operates a public higher education system that appears universally underfunded. While Massachusetts collects 30 percent more taxes than the average state, these revenues are funneled to higher education at a rate less than half the national average. Because these funds are not adequately supplemented by income from other sources, such as tuition or government grants and contracts, public institutions in Massachusetts operate with total funds per student that are 32 percent below the U.S. average.

Ohio also provides low per-capita state support to higher education, but because of above-average income from tuition revenues and private sources, public institutions in the state generally have funding close to the U.S. average. However, the largest institutional sector in Ohio, the major doctoral institutions, operates with total educational and general (E&G) funds that are more than 20 percent below average for comparable schools in other states. Two of the other states ranked low in state appropriations, Vermont and New Hampshire, charge relatively high tuition and thus achieve revenues that are 40 percent and 6 percent above average, respectively. Pennsylvania, although ranked 48th in state appropriations per capita, supports a counterbalancing small number of students in public institutions. Thus, in Pennsylvania, appropriations relative to enrollments in the public sector are near the national average. Combined with high rates of support from other sources, public institutions in Pennsylvania have total per-student revenues that are 17 percent above the national average.

Content of the Study

While the foregoing examples are brief and simplistic, they demonstrate that a fair appraisal of state support goes beyond a single-dollar figure. To support a more comprehensive review, the McCoy-Halstead study, using more than 30 separate measures, provides state-by-state comparisons of:

- Numbers of students supported in public institutions in the state, indicating whether they are residents or not, entry level or continuing, and full or part-time.

- State financial commitment to higher education, comparing the inherent wealth of the state (tax capacity), state efforts to raise public monies (tax effort), and the extent to which tax funds are funneled to higher education (allocation rate). The end product of this analysis is appropriations per capita. In addition, state funding for student aid to independent institutions is presented.

- Structure of higher education in the state, identifying the relative emphasis on public versus independent education and the type of public higher education provided, as indicated by relative enrollments in major doctoral, comprehensive, baccalaureate, two-year, health professional, and other specialized institutions, to identify differences in funding needs. For example, a state enrolling a majority of its students in major doctoral schools is selecting a relatively more expensive form of education and suggests the need for more relative funding.

- Financial resources of institutions, examining state and local appropriations per student in light of the institution's success in attracting funds from other sources (such as tuition income, government grants and contracts, private gifts and contracts).

- Institutional spending patterns, as indicated by the different mix of instruction, research, public service, and other E&G expenditures, to broadly reflect differences in institutional activities.

In addition, the study shows recent trends in the support of higher education by various sources (state, federal, tuition, etc.) and the extent to which state appropriations have kept pace with enrollment shifts and inflation.

Each factor reported in the study has been indexed relative to the U.S. average to quickly show relative standings. Thus, for example, if appropriations per public student in a state were $1,800, the index value of 88 would signify that this state spent only 88 percent as much as the average state.

To illustrate the format of information in the report, the summary for the U.S. average is displayed in Figure 1.

Summary Findings

While the major focus of the McCoy-Halstead report is the individual state-by-state analyses, a number of general findings have been summarized below to acquaint the reader with the report.

Trends. The McCoy-Halstead report highlights the fact that overall in FY76, state contributions in support of public higher education declined 4.6 percent in purchasing power per student. This drop occurred despite a 13.4 percent increase in dollars spent by states on higher education. That increase was more than consumed by an enrollment surge of 11.5 percent and inflation of

PUBLIC ENROLLMENTS

(per 1000 pop.)

#1 HIGH SCHOOL GRADUATES: 15 × {59%} = #3 FIRST TIME RESIDENT ENROLLMENT: 8.7 + #4 IN-MIGRATION TO PUBLIC INSTITUTIONS: .9

#2 ENTRANCE RATE TO PUBLIC INSTITUTIONS: 59%

=

#5 FIRST TIME ENROLLMENT: 9.6

×

#6 RETENTION FACTOR (Relationship of first time to total enrollment): {4.3}

×

#7 CONVERSION FACTOR (Enrollment to FTE): {.72}

=

#8 FTE ENROLLMENT IN PUBLIC INSTITUTIONS: 29.8

INSTITUTIONS:	STUDENT AID (per capita)	INSTITUTIONAL SUPPORT (per capita)		FTE ENROLLMENT (per 1,000 pop)		#14 STATE & LOCAL APPROPRIATIONS (per student)		TUITION (per student)		GOVT. CONTRACTS (per student)		PRIVATE GIFTS & GRANTS (per student)		OTHER (per student)		#16 TOTAL E&G REVENUES (per student)
PUBLIC	$1.04	$60.9		29.8		$2047		$548		$520		$112		$215		$3443
Major Doctoral Granting		23.8		9.1		2627		817		993		250		421		5116
Comprehensive		12.8		8.4		2000		540		296		42		112		2990
General Baccalaureate		2.4	÷	1.5	=	1634	+	609	+	360	+	39	+	90	=	2731
Two Year		15.8		11.2		1398		306		159		11		97		1971
Health Professional		3.4		0.2		17376		1012		8430		2272		2045		31134
Other Professional		2.9		1.5		1949		644		413		68		167		3240
INDEPENDENT	1.29	0.8		9.0		91		2442		1002		984		383		4901

#15 OTHER REVENUES: TUITION, GOVT. CONTRACTS, PRIVATE GIFTS & GRANTS, OTHER

#9 STATE & LOCAL TAX CAPACITY PER CAPITA: $643 × #10 TAX EFFORT: {100%} = #11 STATE & LOCAL TAX REVENUES PER CAPITA: $643

×

#12 ALLOCATION TO PUBLIC HIGHER EDUCATION: {10%}

=

#13 STATE & LOCAL APPROPRIATIONS TO PUBLIC HIGHER EDUCATION PER CAPITA: $60.9

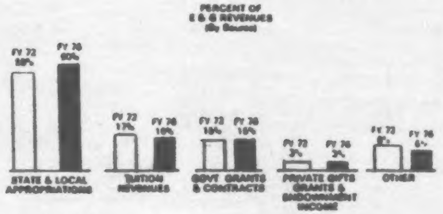
STATE & LOCAL FINANCES

(per capita)

TRENDS IN STATE & LOCAL E & G APPROPRIATIONS TO HIGHER EDUCATION FY 75 to FY 76

	Number of Institutions in Each Category	FTE Enrollment 1976	E&G Appropriations FY76 (Actual $ Amt.)	Percent Change in Appropriations Since FY75	Change in FTE Enrollment 1975 to 1976	Change in Appropriations Per Student FY75 to FY76	Change in Constant Dollar Appropriations Per Student FY75 to FY76
Public Institutions	16	111,131	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Major Doctoral Institutions	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.0
Comprehensive Institutions	1	9,643	[illegible]	2.0	7.7	[illegible]	-10.5
Baccalaureate Institutions	-	-	-	-	-	-	-
Two Year Institutions	13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Health Professional Institutions	-	-	-	-	-	-	-
Other Professional & Specialized Schools	-	-	-	-	-	-	-
Independent Institutions	5	[illegible]	0	0	[illegible]	0	0

TRENDS IN THE MIX OF SUPPORT TO PUBLIC HIGHER EDUCATION FY 72 to FY 76



INSTITUTIONAL REVENUES

(Educational & General per student)

INSTITUTIONAL EXPENDITURES

(Educational & General per student)

	INSTRUCTION (per student)	RESEARCH (per student)	PUBLIC SERVICE (per student)	OTHER (per student)	TOTAL (per student)
PUBLIC	$1489	$330	$163	$1311	$3303
Major Doctoral Granting	1953	886	388	1727	4955
Comprehensive	1489	114	73	1249	2925
General Baccalaureate	1252	50	62	1328	2692
Two Year	972	6	34	873	1885
Health Professional	11446	4725	1531	7934	25636
Other Professional	1448	163	67	1430	3108
INDEPENDENT	1861	589	106	2289	4845

PERCENT DISTRIBUTION

60%	16%	15%	3%	6%
51	16	15	5	8
67	18	10	6	4
60	22	13	1	3
71	16	8	1	5
56	3	27	7	7
60	20	13	2	5
2	50	20	20	8

PERCENT DISTRIBUTION

PUBLIC	45%	10%	5%	40%
Major Doctoral Granting	39	18	8	35
Comprehensive	51	4	3	43
General Baccalaureate	47	2	2	49
Two Year	52	0	2	46
Health Professional	45	18	6	31
Other Professional	47	5	2	46
INDEPENDENT	38	12	2	47

Indexes shown in red are based on U.S. average = 100

U.S. AVERAGES

6.6 percent (based on the Higher Education Price Index). In FY76 only 19 states improved or maintained the real dollar value of appropriations per public student. These states, led by Alaska with a 25.9 percent gain, were in descending order: Wyoming, Nevada, D.C., North Dakota, Hawaii, Texas, Oregon, Idaho, New Mexico, Alabama, Kansas, Ohio, Iowa, Utah, Minnesota, Nebraska, Montana, and Delaware. The greatest decline in constant dollar appropriations per student occurred in North Carolina, with an average decrease of 22.6 percent at public institutions. These trends for the states are shown in Table 1.

Appropriations by Institutional Category. Although total state support increased for the public institutional sector as a whole, enrollment growth varied considerably among institutions, resulting in a significant difference in constant-dollar support per student. Only public health professional institutions, as a group, showed real dollar gains per student in state funding, due to a massive 28 percent increase in appropriations that far outdistanced the enrollment growth of 11 percent. Major doctoral, other professional and specialized, and comprehensive four-year colleges, had small per-student constant dollar losses in state support of 0.7 percent, 1.1 percent, and 2.0 percent respectively. However, two-year and baccalaureate colleges showed large losses in per-student funding of 10.3 percent and 8.0 percent. In both instances, enrollments grew faster than appropriations with inflation further compounding the situation.

Public Enrollments. The average state enrolled 30 FTE students in public institutions for every 1,000 citizens. However, individual states vary substantially in the amount and type of access to public higher education afforded to citizens. Arizona leads the nation by enrolling 50 students per 1,000 population, a rate that is almost 70 percent above average. California enrolls the next largest proportion of students (47 per 1,000), followed by Colorado (43 per 1,000), Washington (42 per 1,000), and Oregon (41 per 1,000). States with the fewest students attending public institutions include Alaska and Pennsylvania (19 per 1,000); the District of Columbia enrolls only 14 students per 1,000 in public institutions.

Support Per Capita. Collectively the states spent about $13 billion in support of public higher education institutions in FY76. On an individual basis, this represents an average contribution of $61 per citizen. Such support ranges from a high of $130 in Alaska to a low of $31 per capita in New Hampshire. In addition to state support directly to public institutions ($61 per capita), the states spend another $3 per citizen for state appropriations to independent institutions and for student aid.

Institutional Revenues and Expenditures. State and local governments play a primary role in financing public higher education. The average state contributed 60 percent of all educational and general revenues in FY76. The District of Columbia (77 percent) and California (70 percent) led in providing the highest proportion of state-level government support. Vermont (26 percent) and New Hampshire (36 percent) were lowest. Tuition was the next single most important income source for public institutions (16 percent), although it accounted for a much smaller share of total E&G revenues. However, states with low government support relied heavily on tuition, in particular New Hampshire (36 percent of total E&G revenues) and Vermont (34 percent).

Table 1

	State	Percent Change in Constant Dollar State and Local Support/Student at Public Institutions FY75 to FY76
1	Alaska	25.9%
2	Wyoming	19.9
3	Nevada	19.5
4	D.C.	17.3
5	North Dakota	17.0
6	Hawaii	12.6
7	Texas	8.9
8	Oregon	8.6
9	Idaho	7.0
10	New Mexico	5.4
11	Alabama	5.2
12	Kansas	4.6
13	Ohio	3.3
14	Iowa	2.5
15	Utah	2.3
16	Minnesota	2.2
17	Nebraska	2.0
18	Montana	1.1
19	Delaware	0.6
20	Oklahoma	-0.7
21	New York	-1.7
22	California	-1.9
23	Pennsylvania	-2.2
24	Indiana	-2.2
25	Wisconsin	-2.0
26	Washington	-3.6
27	Mississippi	-3.8
28	Maine	-4.0
29	New Hampshire	-5.2
30	New Jersey	-5.8
31	Colorado	-6.2
32	Arizona	-6.5
33	Maryland	-6.5
34	South Dakota	-6.6
35	Kentucky	-8.3
36	Arkansas	-9.3
37	Tennessee	-9.4
38	Connecticut	-9.6
39	West Virginia	-10.1
40	Virginia	-10.3
41	Vermont	-10.9
42	Florida	-11.6
43	Missouri	-11.7
44	Michigan	-12.2
45	Rhode Island	-12.6
46	Illinois	-13.5
47	Massachusetts	-15.4
48	Louisiana	-16.0
49	South Carulina	-16.1
50	Georgia	-17.1
51	North Carolina	-22.6
	U.S.	-4.6

Several tables from the McCoy-Halstead study have been abstracted to appear with this article. Tables 2 through 6 contain rankings, values, and indexes for the states, covering enrollments per capita, tax revenues per capita, appropriations per capita, appropriations per student, and institutional revenues per student.

The average state appropriation for public higher education in FY76 was $2,047 per student. The U.S. average, high, and low values for each category of public institution in FY76 were as follows:

	U.S. Average	High	Low
Major Doctoral Granting	$ 2,627	$ 4,112 (NY)	$1,397 (VT)
Comprehensive	2,000	9,052 (AK)	776 (NH)
General Baccalaureate	1,634	2,991 (WI)	809 (KS)
Two-Year	1,398	4,523 (AK)	725 (NV)
Health Professional	17,376	40,918 (NJ)	8,106 (MN)
Other Professional	1,949	28,331 (OH)	856 (NH)

Two-year colleges were most dependent on state and local government support, receiving 71 percent of total E&G revenues from this source. Government appropriations were next most important for comprehensive colleges (67 percent) followed by general baccalaureate and other specialized institutions (60 percent) and health professional schools (56 percent). Least dependent, but still relying on state and local government for over half their revenues, were major doctoral institutions (51 percent).

Limitations of the Study

While the authors believe that this study brings together more factors in a single analysis of state funding than have been traditionally considered, there are a number of important limitations to this study that should be remembered. For example, the study provides no measures of quality differences among the states and their institutional sectors. There are also no measures of the different content of programs among the states, emphasizing different levels of graduate education or greater prevalence of more costly medical, engineering, or other such programs. Differences in cost due to economies of scale or differences in the stage of development of institutions are likewise not considered. In addition, a focus on average per student amounts does not take marginal economies or diseconomies into account.

In a similar vein, the quality of the analyses are no better than the data employed. While the authors are convinced that the data from the National Center for Education Statistics and the Census Bureau that have been used are the best available, there remain important comparability issues to be resolved. For example, in some states, the vocational education system is included within higher education; in others, it is a component of elementary-secondary education. Similarly, medical schools are organized and reported as separate campuses in some states; in others, they are integrated within a university. Different state practices for debt financing and retirement system payments, and in enrollment counting also contribute to the comparability problems. In this regard, in using data from a particular state, it is recommended that users contact data experts within the state at the appropriate institutions.

Data Sources

The McCoy-Halstead analysis uses data for FY76, available from the National Center for Education Statistics (NCES) and the Census Bureau. While the study provides information summarized by six major groups of institutions and focuses primarily on the public sector, NCHEMS offers a data analysis service that can provide institution-by-institution information. For information about this service, contact Marilyn McCoy of NCHEMS at 303-497-0319. The FY76 edition of this report will be distributed in January by NIE to presidents of all public higher education institutions. This study will be updated biennially by the authors. The next report is scheduled for release in April 1980 and will provide data for FY77 and FY78. Copies of the report can be obtained from the Superintendent of Documents, Government Printing Office.

Table 2

	State	FTE Enrollment Per 1000 Pop. at Public Institutions	Index
1	Arizona	50.0	168
2	California	47.1	158
3	Colorado	42.6	143
4	Washington	41.8	140
5	Oregon	41.4	139
6	Hawaii	39.9	134
7	North Dakota	39.1	131
8	Utah	39.0	131
9	Wyoming	36.4	122
10	Kansas	36.4	122
11	Delaware	36.0	121
12	Nevada	35.6	120
13	Oklahoma	35.2	118
14	Wisconsin	35.1	118
15	Michigan	33.6	113
16	New Mexico	33.1	111
17	Texas	32.7	110
18	Montana	32.2	108
19	Mississippi	31.8	107
20	Alabama	31.8	107
21	Nebraska	30.7	103
22	Virginia	30.3	102
23	South Carolina	29.5	99
24	North Carolina	29.4	99
25	Maryland	29.4	99
26	Idaho	29.2	98
27	Vermont	29.2	98
28	Louisiana	28.6	96
29	Minnesota	28.5	96
30	West Virginia	27.8	93
31	South Dakota	27.5	92
32	Illinois	27.4	92
33	Missouri	25.4	85
34	Iowa	25.3	85
35	Tennessee	25.1	84
36	New York	24.8	83
37	Florida	24.7	83
38	Rhode Island	24.6	83
39	Kentucky	24.4	82
40	Ohio	23.8	80
41	New Hampshire	23.5	79
42	Indiana	23.3	78
43	Georgia	22.7	76
44	Maine	22.3	75
45	Massachusetts	21.9	74
46	New Jersey	21.6	73
47	Connecticut	21.6	73
48	Arkansas	21.2	71
49	Pennsylvania	18.6	63
50	Alaska	18.6	62
51	D.C.	13.7	46
	U.S.	29.8	100

Table 3

	State	Tax Revenues Per Capita	Index
1	New York	$994	155
2	California	851	132
3	Hawaii	838	130
4	Massachusetts	792	123
5	Alaska	770	120
6	Minnesota	727	113
7	Wisconsin	717	112
8	Illinois	712	111
9	New Jersey	708	110
10	D.C.	695	108
11	Connecticut	690	107
12	Wyoming	687	107
13	Michigan	681	106
14	Maryland	680	106
15	Nevada	678	105
16	Delaware	673	105
17	Vermont	656	102
18	Arizona	651	101
19	Washington	646	101
20	Rhode Island	635	99
21	Iowa	631	98
22	Oregon	623	97
23	Colorado	617	96
24	Montana	604	94
25	North Dakota	596	93
26	Kansas	588	91
27	Pennsylvania	582	91
28	Indiana	578	90
29	Nebraska	567	88
30	Maine	562	87
31	Louisiana	545	85
32	New Mexico	528	82
33	Virginia	526	82
34	Ohio	525	82
35	South Dakota	523	81
36	Idaho	517	80
37	Missouri	512	80
38	New Hampshire	501	78
39	Utah	500	78
40	Florida	496	77
41	Georgia	493	77
42	Texas	492	77
43	West Virginia	490	76
44	North Carolina	473	74
45	Oklahoma	466	72
46	Kentucky	465	72
47	Mississippi	434	68
48	South Carolina	429	67
49	Tennessee	429	67
50	Arkansas	397	62
51	Alabama	395	61
	U.S.	$643	100

Table 4

	State	State and Local Appropriations per Capita to Public Higher Ed. Institutions	Index
1	Alaska	$130.2	214
2	Wyoming	102.7	168
3	California	101.5	167
4	Hawaii	93.7	154
5	Arizona	88.6	145
* 6	Wisconsin	86.2	142
7	Washington	83.4	137
8	Oregon	80.1	131
9	Idaho	74.8	123
10	North Dakota	74.3	122
11	Utah	73.4	120
12	Kansas	72.7	119
13	Nebraska	71.0	117
14	New York	69.7	114
15	Iowa	68.5	112
16	Delaware	67.5	111
17	Colorado	67.0	110
18	Texas	65.5	107
19	South Carolina	64.0	105
20	Michigan	63.3	104
21	Nevada	62.0	102
22	Alabama	61.2	100
23	North Carolina	60.7	100
24	New Mexico	59.6	98
25	Mississippi	59.3	97
26	Minnesota	59.1	97
27	Illinois	58.3	96
28	Maryland	56.5	93
29	Kentucky	55.7	91
30	Montana	54.9	90
31	Rhode Island	51.9	85
32	D.C.	50.1	82
33	Indiana	50.0	82
34	Virginia	49.6	81
35	Florida	49.6	81
36	Louisiana	48.2	79
37	South Dakota	47.9	79
38	Missouri	47.1	77
39	Oklahoma	46.8	77
40	West Virginia	46.1	76
41	Arkansas	45.5	75
42	Georgia	45.3	74
43	Tennessee	42.4	70
44	New Jersey	40.7	67
45	Connecticut	40.3	66
46	Maine	39.8	65
47	Ohio	39.7	65
48	Pennsylvania	37.2	61
49	Vermont	35.9	59
50	Massachusetts	35.5	58
51	New Hampshire	31.0	51
	U.S.	$ 60.9	100

* This changed from prior table.

Table 5

		State	Appropriations per Public Student	Index
	1	Alaska	$7,008	342
	2	D.C.	3,655	179
	3	Wyoming	2,821	138
	4	New York	2,814	138
	5	Iowa	2,704	132
	6	Idaho	2,561	125
*	7	Wisconsin	2,456	120
	8	Hawaii	2,349	115
	9	Nebraska	2,318	113
	10	Kentucky	2,286	112
	11	South Carolina	2,169	106
	12	California	2,155	105
	13	Arkansas	2,144	105
	14	Indiana	2,144	105
	15	Illinois	2,129	104
	16	Rhode Island	2,111	103
	17	Minnesota	2,076	101
	18	North Carolina	2,063	101
	19	Florida	2,010	98
	20	Texas	2,004	98
	21	Kansas	2,000	98
	22	Georgia	1,997	98
	23	Washington	1,996	98
	24	Pennsylvania	1,996	98
	25	Oregon	1,933	94
	26	Alabama	1,926	94
	27	Maryland	1,925	94
	28	North Dakota	1,900	93
	29	New Jersey	1,883	92
	30	Utah	1,883	92
	31	Michigan	1,883	92
	32	Delaware	1,873	92
	33	Mississippi	1,867	91
	34	Connecticut	1,866	91
	35	Missouri	1,853	91
	36	New Mexico	1,802	88
	37	Maine	1,781	87
	38	Arizona	1,772	87
	39	South Dakota	1,742	85
	40	Nevada	1,742	85
	41	Montana	1,703	83
	42	Tennessee	1,690	83
	43	Louisiana	1,685	82
	44	Ohio	1,665	81
	45	West Virginia	1,658	81
	46	Virginia	1,636	80
	47	Massachusetts	1,619	79
	48	Colorado	1,575	77
	49	Oklahoma	1,329	65
	50	New Hampshire	1,318	64
	51	Vermont	1,229	60
		U.S.	2,047	100

* This changed from prior table.

Table 6

	State	Revenues per Student at Public Institutions	Index
1	Alaska	$12,631	367
2	Iowa	4,864	141
3	Vermont	4,803	140
4	D.C.	4,725	137
5	Wyoming	4,699	137
6	Delaware	4,414	128
7	Utah	4,272	124
8	Minnesota	4,247	123
9	Indiana	4,112	119
10	Kentucky	4,106	119
* 11	Wisconsin	4,077	118
12	New York	4,027	117
13	Pennsylvania	4,013	117
14	Nebraska	3,981	116
15	Hawaii	3,967	115
16	Idaho	3,899	113
17	Rhode Island	3,845	112
18	Maine	3,754	109
19	New Mexico	3,689	107
20	Arkansas	3,664	106
21	North Dakota	3,656	106
22	New Hampshire	3,631	106
23	Michigan	3,619	105
24	South Dakota	3,580	104
25	Maryland	3,579	104
26	Colorado	3,572	104
27	Oregon	3,538	103
28	Alabama	3,516	102
29	Washington	3,468	101
30	North Carolina	3,456	100
31	Georgia	3,449	100
32	Kansas	3,425	100
33	Ohio	3,404	99
34	Mississippi	3,385	98
35	Texas	3,362	98
36	South Carolina	3,332	97
37	Illinois	3,235	94
38	Florida	3,224	94
39	Tennessee	3,157	92
40	Montana	3,127	91
41	New Jersey	3,120	91
42	Missouri	3,082	90
43	California	3,063	89
44	Virginia	3,021	88
45	Nevada	2,909	85
46	Arizona	2,883	84
47	Connecticut	2,865	83
48	Louisiana	2,597	75
49	West Virginia	2,524	73
50	Oklahoma	2,366	69
51	Massachusetts	2,354	68
	U.S.	3,443	100

* This changed from prior table.

ON THE HORIZON: BRINGING EDUCATIONAL QUALITY INTO FINANCIAL ANALYSIS

Hayden W. Smith
Senior Vice President
Council for Financial Aid to Education

The subject of this brief presentation has the appearance of an irrelevancy with respect to the general purpose and theme of this conference. Yet it bears directly on the broad question of the health of higher education, both for higher education as a whole and for individual institutions; not financial health *per se* but another matter that is related to financial health in several important ways.

We are interested in the financial health of the institutions of higher education, not merely because we are interested in the efficiency with which the managers or administrators of colleges and universities utilize the resources with which they have been provided, but also because we are interested in the ability of colleges and universities to continue to carry out their high purposes and to serve well the needs of society.

Clearly it is desirable - indeed imperative - that the bills be paid, that the payroll be met, that the capital investment be kept intact, that some sort of financial equilibrium be maintained, and that full accountability be recognized. These are important objectives, and valid tools of financial analysis are necessary if academic administrators are to achieve and maintain the requisite degree of financial health in all its dimensions.

But financial health, although a necessary condition for the viability of the enterprise, is hardly a sufficient condition for the viability of higher education at a level of performance that is consonant with the demands and expectations of society. The role of our colleges and universities as disseminators, preservers, and extenders of knowledge must not be impaired. The capacity of the system to offer a wide variety of educational experiences, a rich assortment of educational goals, and an extensive array of educational programs must not be weakened. The ability to provide access to as broad as possible a spectrum of students in terms of educational background, social and economic status, and learning ability must not be abridged. And above all, that characteristic of education generally referred to as quality must not be allowed to diminish.

One of the obvious deficiencies of any measure of financial health for a college or university is that they tell you nothing about the institutional situation in terms of its capacity to carry out its own mission, to serve its constituencies at the desired levels of quality, or to carry out the range of programs that is desired. It is always possible, for example, to balance an operating budget by reducing expenditures to a level of equality with the available resources. In order to do so, those expenditures may have to be cut in areas that are vital to the purposes for which the institution exists. An example of this would be the balancing of the budget by reducing faculty salary scales. Such an example would yield measures of financial health such as a balanced budget, a healthy ratio of total income or total expenditures to assets or to reserves or to endowment or to any one of several other financial indexes, and yet all of these indications of financial health would say nothing about the capacity of the institution to do the job that it should be doing or the manner in which it is able to achieve those healthy ratios.

I am reminded of Fred Hechinger's observation that we always operate at a deficit in educational terms. There is never enough money to do all the things that the educator feels should be done to be fully responsive to the demands of the institution's constituencies. This implies that any balanced budget is of little significance independent of the level of activity at which the budget is balanced. One may envision a balanced budget at a high level of income and expenditure per student or at a low level of income and expenditure per student. Yet obviously the impact of the level of income and expenditure has a material bearing on the quality of the final product.

So much by way of introduction. My remarks are intended not to be critical of the on-going efforts to improve the tools of financial analysis in higher education and to develop valid indicators of financial health, nor do I mean to denigrate any of the specific efforts being undertaken in these areas. Rather, I wish merely to offer a perspective on the way in which these efforts relate to some of the current and prospective problems of higher education, and to give you a preview of a related project that is designed to be responsive to a number of concerns about other aspects of the health of higher education; concerns that are emerging and growing not only within the educational community itself but also outside, among other sectors of society.

This subject begins with the widely-held belief that higher education is now somewhere on the threshold of a period of contraction that will involve sharp contrasts with the quarter century of expansion between the late '40s and the early '70s. This is, as you know, primarily a matter of demographics; the number of college-age youth (18 to 21 years old) will decrease by roughly 20% between the mid-70s and the mid-90s, and this decline is virtually certain to lead to a similar decrease in the enrollment of traditional full-time students. This implies that, in the absence of offsetting factors - and it is recognized that there may be offsets - tuition income, which is an important source of current-funds operating revenue, will tend to decrease. At the same time there will undoubtedly be continued upward pressure on current funds operating expenditures because of rising energy costs, general inflation, and other economic factors. The foreseeable result is obviously a long-run tendency toward unbalanced budgets.

Decreased enrollment also implies a decrease in the need for faculty, support staff, and physical facilities. In economic parlance, what we are talking about is disinvestment in higher education. Now there are few examples, if any, of an industry that has gone through the process of disinvestment without a marked reduction in the quality of the product. If you want to think about this in concrete terms, I need only cite the example of our railroads.

The two problems of maintaining financial health and disinvesting lead inevitably to the concern over maintaining quality and diversity in higher education during the period of contraction. Since the preservation of quality and diversity is a widely-shared objective, and since the attainment of this objective will compete with other objectives of both public and private policy, it follows that we need to know something about the costs that will be involved. That, in a nutshell, is the subject of a new project that CFAE is considering.

Let me emphasize that we are not interested in measuring quality and diversity, nor even to define these terms in any rigorous way. What we are interested in is the development of some measures of the cost of maintaining quality and diversity in higher education during this prospective period of contraction. Our interest is in making this information available to all the sources of educational support - public and private - and to suggest to them certain areas in which there are opportunities for incremental funding that will be exceptionally productive in terms of quality and diversity.

The methodology that we are considering may be of some interest. We have identified a number of things that we now refer to as indices of quality, all of which have the attribute of being measurable in monetary terms. That is, the characteristic of each of these indices is that quality and/or diversity is directly related in some way to the level of operating expenditures allocated. One simple and obvious example may be appropriate.

In terms of both teaching and research, educational quality is a function of the money spent on libraries both for acquisitions and maintenance. The cumulative impact of reduced library expenditures is clearly a reduction in educational quality; this applies to each individual institution and to the educational system as a whole. We thus view library capability as an index of quality, and we believe that it is possible to measure the levels of library expenditures that would be necessary to prevent any deterioration in educational quality from this source.

There are other indices of quality that include such things as faculty, programs, facilities, standards of admission. We believe our list includes most of the things of material importance to the subject. Much of what we have enumerated consists of surrogates for other things that are more directly related to quality and diversity; the reason for this is that the surrogate is measurable in dollars while the primary index is not.

One of the procedures we are considering is to commission a series of seven or eight studies in each of which a group of related indices will be evaluated on a national basis with a view to estimating the cost of quality preservation over the period from the mid-70s to the mid 90s. Such studies might be published as mongraphs and distributed widely to the principal sources of educational finance.

In addition, we are thinking of organizing a task force that would involve a small number of representative institutions of higher education for the purpose of making estimates of the costs of maintaining quality in terms of the entire list of indices at the institutional level. This would, we believe, provide a cross-check on the reliability of the national estimates and a view of the problem in terms that are more easily visualized than the system-wide numbers. The final part of such a project would be a summary or synthesis of all the individual studies and the task force report in terms of public and private policy considerations. The aim would be to suggest what resources must be committed to higher education in the years ahead if there is to be no deterioration of the quality and diversity of the enterprise and its outputs. The actual levels of future funding will inevitably reflect both the availability of public and private resources and all the competing demands for their use for other purposes. The cost estimates would clearly be vital to the nation if intelligent and rational choices are to be made.

A research project conforming broadly to this outline is of very great interest to CFAE, and we are actively looking at various alternative ways by which such a project can be carried out.

CLOSING REMARKS

Carol Frances
Chief Economist and Director, Economics and Finance Unit
American Council on Education

To conclude our meeting, may I give my perceptions of what we have accomplished at this conference--which opened with Marjorie Chandler's eloquent description of the fabric that we need to weave. The meeting proceeded, over the next day and a half, with descriptions of current uses of financial indicators which were often characterized roughly as "by the seat of our pants." I think that we did, however, weave enough fabric to cover the seat of our pants.

I also want to tell you about our plans for 1980 to undertake a major study of the financial condition of higher education. The place of this study in the stream of our recent history gives it, we believe, an enormous potential significance.

In 1972, at the time the higher education amendments were debated educators sought to focus attention on the financial conditions of the institutions and claims were made that the sector faced wholesale bankruptcies. I think that the higher education community would have to admit, however, that we completely lost our credibility with respect to our assertions about the financial distress of the institutions. We took current fund deficits, extrapolated them into the indefinite future, and predicted the demise of major segments of higher education. That did not happen. And then nobody believed any subsequent claims. We had to admit that current fund deficits were an inadequate basis for characterizing the financial conditions of higher education institutions. We had to acknowledge that current fund deficits were arbitrary because they report the status of only one of the many institutional funds--such other funds typically being included as plant, endowment, life income and annuity, and that we needed a form of financial reporting which encompassed the entire enterprise. It was in that context that we decided with NACUBO in 1975 to organize the Financial Measures Project. The Financial Measures Project built extensively on the new work in the accounting profession on nonprofit institutions.

At the outset a major goal of the Financial Measures Project was to re-establish the credibility of higher education by providing more solid financial information. The purpose of initiating the project was to develop an analytic capability on which to base conclusions that we could defend in public forums concerning the financing of higher education. We wanted to be able to make statements about the overall financial condition of higher education that would stand up under cross examination.

The project was originally intended to serve the purpose of improving our public policy development for higher education as a whole. But the published statistics based on national aggregates of data on revenues and expenditures could not be used as a basis for drawing conclusions about the comparative financial state of individual institutions. Yet we began to realize that the "health" of the sector had meaning only in terms of health of the individual institutions which comprised it.

We came to understand more completely what was meant by the requirement that the individual institution was the basic unit of analysis. We had to develop a better conceptual framework for identifying and interpreting financial indicators based on a better understanding of causes and effects. The ultimate objective was to be able to predict financial outcomes. Before we could do that, we had to distinguish between symptoms of and causes of financial distress.

Over the years since 1975 there has been an enormous amount of activity in the field of financial indicator development, much of it by the people who reported on the advances in their work at the annual conferences of the Financial Measures Project held in Annapolis. Controversy continues to swirl, however, over whether we can or cannot define and measure the overall financial health of an institution or must content ourselves with indicators of particular narrowly defined financial problems. Debate on this issue is likely to persist because a sharp divergence of opinion exists even within the project. Consequently, the means of validation of the financial indicators will be a foremost concern in the next phase of financial indicators development. In my judgment, validation should be a two part program. The first part should be based on statistics analyses. The second part should be the test of the indicators in actual use.

Do managers in education find them useful and do they make decisions based on them? I believe the managers will ultimately have to go beyond indicators of specific problems to a summary judgment of the overall health or condition of the institutions.

And, as we learn more about the financial analysis of individual institutions, I think we are now ready again to try to make general evaluations of the financial health of higher education institutions, starting sector by sector and ending up with an overall assessment at the national level.

In the next stage of development of college and university financial analysis, we plan to expand the study by adding another complete dimension --to assess the impact of financial distress on the educational opportunities of different types of students. This is a very significant evolution of the definition of the task to be done. The expansion of the conception of the task owes a great deal to the perception of Sal Corrallo of the Office of Planning and Evaluation, who has for many years been helping us to see the inter-connections between student access and institutional capabilities. And, he has been very active in trying to stimulate response to these concerns by those who could see the relationships between the institutions' capacities to deliver educational services and the access of students to those services. This definition of the task also signals the possibility of a new stage in the relationships between higher education and the federal government.

The year 1980 is a significant year to undertake such a study because it may be a financial turning point. The institutions have been gathering financial strength in the late 1970's while at the same time expanding access to students. In the early 1980's, however, the institutions will face the combined adversities of recession, inflation, and the first years of actual downturn in college-age population after the peak level was reached in 1979. The students will face soaring education costs, and the erosion of the purchasing power of their student aid dollars, and they may find it harder during an economic slowdown to find work to earn their way through college.

Educational opportunity from the perspective of the students is a set of choices. This set of choices constitutes an educational market. I think an assessment of the impact of financial distress on the educational opportunity of students has to be analysed in terms of what happens to their choices. Construction of the analytic framework for this assessment starts, then, with delineating education markets. And that is the next task we plan to undertake.

Appendix: Conference Agenda and Participants

Progress in Measuring Financial Conditions of Colleges and Universities
1979 Working Conference

September 27-28, 1979
Annapolis, Maryland

Thursday, September 27

Morning	Purpose of the Conference	Carol Frances Marjorie Chandler K. Scott Hughes
	The Federal Interest in Development of Financial Indicators for Policy Purposes	Victor Wenk
	Progress at the Regional Level: Advances in the Use of Financial Indicators in the Regional Accreditation Process	William Haywood
	Progress at the State Level: Using Financial Health Indicators in State Policy Development and Implementation	
	New York State Level Uses of Financial Health Indicators--Problems in Assessing the Health of Public Institutions	Paul Wing
	Maryland The History and Prospects for Financial Health Indicators in Maryland	Frank A. Schmidtlein Lucie Lapovsky
	Tennessee The Use of Performance/Quality Data to Allocate State Funds	E. Grady Brogue
Afternoon	Arkansas Implications for State Policy Toward Public Institutions	T. Michael Elliott
	Florida Legislative Uses of Financial Data for State Policy-Making	William D. Law, Jr.

Open Discussion: Is the State of The Art of Financial Assessment Adequate to Support Federal and State Policy Action?	K. Scott Hughes
Independent Colleges: A Case Study Approach	Nathan Dickmeyer K. Scott Hughes
Critical Assessment of What is Needed Now: Perceptions of the Business Officer	D. Francis Finn

Friday, September 28

Morning	Risks in Financial Indicator Development	Charles Nelson
	Progress Reports from Current Research Projects	
	The NCHEMS Indicators Project, NCHEMS Financial Health Indicators	Douglas Collier
	50-State Study of Support for Higher Education	Marilyn McCoy D. Kent Halstead
	The Financing of College Athletics	Robert H. Atwell
	On the Horizon: Bringing Educational Quality into Financial Analysis	Hayden W. Smith
	Financial Statement Project	Hans Jenny
	Plans for 1980	Nathan Dickmeyer Carol Frances

Progress in Measuring Financial Conditions of Colleges and Universities
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September 27-28, 1979
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Speakers

Robert H. Atwell, Vice President, American Council on Education

Bob Atwell is Vice President of the American Council on Education. Prior to joining the Council in September 1978, he was President of Pitzer College in the Claremont College Group for eight years and before that, Vice President-Chancellor for Administration at the University of Wisconsin. Previous work included budget and program analysis for the U.S. Bureau of the Budget, OMB's predecessor. His publications include "The Adjustments of the National Universities to Budgetary Distress (1973)" and his recent work at ACE sponsored by the Carnegie Foundation on the financing of intercollegiate athletics.

Bob Atwell received his B.A. from the College of Wooster and his M.A. from the University of Minnesota.

E. Grady Bogue, Director, Performance Funding Project, Tennessee Higher Education Commission

Dr. Bogue is currently Associate Director for Academic Affairs with the Tennessee Higher Education Commission. Prior to accepting this appointment in 1975, Dr. Bogue was an American Council on Education (ACE) Fellow in Academic Administration. Preceeding his one-year internship with ACE, he was on the administrative staff at Memphis State University for ten years, where he also holds three degrees -- a B.S. in Mathematics and Science, and M.A. in Curriculum and Instruction and a Ph.D. in Educational Administration.

Marjorie Chandler, Acting Director, Division of Postsecondary Education Statistics, National Center for Education Statistics.

Dr. Chandler is the Acting Director of the Division of Postsecondary and Vocational Education Statistics of the National Center for Education Statistics. During 1978 and 1979 she was the Acting Director for Multi-Level Education Statistics of the Center

She received her B.A. from Lawrence College and her Master's and Ph.D. from the University of Minnesota in Psychology.

Douglas Collier, Senior Staff Associate, National Center for Higher Education Management Systems

Douglas Collier is a Senior Staff Associate with the National Center for Higher Education Management Systems. He has been project director for a number of NCHEMS projects which have contributed to the development of financial measures of postsecondary education institutions including: The Higher Education Finance Manual Project under contract with the National Center for Education Statistics; the Joint Accounting Group, a cooperative project with NCHEMS, the National Association of College and University Business Officers, and the American Institute of Certified Public Accountants; the NCHEMS Program Classification Structure Project; and the Postsecondary Education Indicators Project. He has contributed at previous Financial Measures Working Conferences including a 1978 presentation with Cathleen Patrick on "A Multivariate Approach to the Analysis of Institutional Financial Condition" and "Checking the Validity of Summary Statistics from HEGIS Financial Data."

He has worked as an admissions officer, Director, Financial Aid, and Assistant to the Vice President of Planning at Rensselaer Polytechnic Institute. He has a B.S. and M.S. from Rennselaer in Management Science/Finance and is currently completing his D.B.A. at the University of Colorado majoring in Business/Health Planning.

Nathan Dickmeyer, Financial Planning Analyst, Economics and Finance Unit, American Council on Education

Nathan Dickmeyer is Director of the Financial Measures Project and a Financial Planning Analyst with the Economics and Finance Unit of the American Council on Education. With K. Scott Hughes he has just published "Self-Assessment of Financial Condition: A Preliminary Edition of a Workbook for Small Independent Institutions" and "Comparative Financial Statistics for Community and Junior Colleges, 1977-78."

He is currently a consultant with the American Institutes for Research working on a project using HEGIS data to track trends in institutional financial health and has worked with Bryn Mawr College to develop a system of incorporating financial data into policy decisions. He has also just completed a study for the National Science Foundation on factors underlying recent changes in university employment of scientists and engineers.

Nathan holds a Ph.D in Educational Administration from Stanford University where he developed Stanford's financial planning model, TRADES, while working in the Academic Planning Office. He also holds an M.B.A. from Harvard University and a B.S. in Metallurgy from Michigan State University. He has been Business Manager and Director of Planning at Johnson State College, Johnson, Vermont.

T. Michael Elliott, Director, Arkansas Department of Higher Education

Dr. T. Michael Elliott is the Director of the Arkansas Department of Higher Education, chief executive officer of the statewide coordinating agency for Arkansas higher education. Previously, Dr. Elliott was the Deputy Commissioner of the Missouri Department of Higher Education.

He is the author of a generalized, computer-based modeling system for use in higher education planning which has been used effectively at the statewide level and at numerous colleges and universities.

Dr. Elliott received his A.B. in Zoology, his M.S. in Higher Education Student Personnel and his Ed.D in Higher Education Administration from Indiana University.

D. Francis Finn, Executive Vice President, National Association of College and University Business Officers

D. Francis Finn is the Executive Vice President of the National Association of College and University Business Officers. During his tenure as chief executive officer, the Association has grown from a budget of $100,000, a staff of 3, and 960 member-institutions to a budget of $2.2 million, a staff of more than 45, and a membership roster of just over 1,890 institutions. Under his leadership, NACUBO has developed extensive programs serving the management needs of higher education--including a wide range of publications, annual workshops serving more than 2,000 college administrators, and research and development efforts resulting in a number of monographs related to various fields of business management in higher education. NACUBO's monthly publication, The Business Officer, is recognized as the leading monthly publication in providing current fiscal management information to institutions.

Before coming to NACUBO, Mr. Finn served as business manager and assistant treasurer at Purdue University from 1961-1969. He was graduated Phi Beta Kappa from Brown University with a major in economics.

Carol Frances, Chief Economist and Director, Economics and Finance Unit, American Council on Education

Carol Frances, Chief Economist of the American Council on Education and Director of the Economics and Finance Unit, has actively sought to stimulate interest in improving measures of the financial conditions of higher education institutions. She helped organize the Financial Measures Project with NACUBO in 1975. One function of the

Project is to bring together those on the leading edge of the field in a series of conferences to advance the state of the art. As the project has evolved, she has attempted to assure, through speeches and panel presentations at conferences and leadership seminars, that the output is used both for public policy review and for college and university management decisions.

Her work includes numerous papers on financing higher education, indicator development and the economic outlook for colleges and universities.

Dr. Frances holds degrees in international relations from UCLA, Stanford, and the Institute d'Etudes Politiques and degrees in economics from Yale and Duke. She serves on the Board of Trustees of the Common Fund. The purpose of the Fund is to provide improved investment management services to educational institutions. Among her professional affiliations, she is Vice President of the National Economists Club in charge of organizing the semi-annual economic outlook seminar.

D. Kent Halstead, Research Economist, National Institute of Education

Kent Halstead is known for identifying major information needs of higher education and independently undertaking important works to meet these needs.

Among his notable achievements over the last several years are the development of the conceptual framework and generation of the data to construct and maintain the Higher Education and Research Price Indexes.

Kent has also produced widely used compendium publications on state planning for higher education, on basic education references, and on state support for higher education.

William Haywood, Vice President, Business Affairs and Treasurer, Skidmore College

William Haywood recently joined the staff of Skidmore College in Saratoga Springs, New York as Vice President for Business Affairs and Treasurer. Prior to joining the staff of Skidmore College, Dr. Haywood was Vice President for Business and Finance of Mercer University in Macon, Georgia. Bill has served as an advisor to ACE, NACUBO and other educational associations. He was a member of the Task Force which guided the development of the workbook, "Self-Assessment of Financial Condition," co-authored by Nathan Dickmeyer and K. Scott Hughes.

He received an Honorary Doctor of Laws degree from Atlanta Law School in 1969, his Master's Degree in Accounting and Economics from Tulane University and his Bachelor's Degree from the University of Mississippi. Dr. Haywood is Vice-Chairman of the Common Fund for Non-Profit Organizations.

K. Scott Hughes, Director, Financial Management Center, National Association of College and University Business Officers

Scott Hughes is Director of the Financial Management Center of the National Association of College and University Business Officers (NACUBO). The Center undertakes projects sponsored by the federal government and foundations which are aimed at improving the quality and use of financial management information and leading toward improved financial management. During his tenure at NACUBO, Scott has been responsible for the development of inflation indicators for research universities, a monograph on the financial responsibilities of governing boards, and, along with Nathan Dickmeyer, comparative data for community and junior colleges.

Previously, he worked at the University of Illinois for seven years and at Stanford University for six years in financial administration. During that time, he focused on financial analysis, planning and budgeting, and accounting systems design.

Scott holds a Master's degree in accounting science, which he received from the University of Illinois in 1970. He also holds a B.S. in accountancy from the University of Illinois, received in 1965.

Lucie Lapovsky, Coordinator, Financial Planning, Maryland State Board of Higher Education

Lucie Lapovsky is currently the Coordinator for Financial Planning of the Maryland State Board for Higher Education. She is responsible for preparing operating and capital budget recommendations for all higher education institutions and agencies in Maryland for Board submission to the Governor and legislature. She is also responsible for monitoring all legislation with financial impact on higher education in Maryland.

She received her B.A. in Economics from Goucher College and her M.A. in Economics from the University of Maryland.

William D. Law, Jr., Staff Director, Committee on Higher Education, Florida House of Representatives

Dr. Law is Staff Director of the Committee on Higher Education for the Florida House of Representatives. Prior to joining the staff of the Committee, Dr. Law held several positions with the Florida Board of Regents, including Assistant to the Vice Chancellor for Administration and Support, and Coordinator for Special Studies, Division of Planning and Budgeting.

He holds a B.A. in English from LeMoyne College and an M.A. in Higher Education and Ph.D. in Philosophy, Design and Management of Postsecondary Education Systems from Florida State University.

Marilyn McCoy, Senior Associate, National Center for Higher Education Management Systems

Marilyn McCoy is a Senior Associate with National Center for Higher Education Management Systems (NCHEMS). She has been at NCHEMS for seven years and currently directs NCHEMS work in higher education indicators and data-base studies and services. Her recent work has included the design of a postsecondary data core for NCES, co-authoring of a study on higher education financing in the states with D. Kent Halstead, and development of NCHEMS holdings of national data-bases for research within NCHEMS and for dissemination to the higher education community.

She received her B.A. in Economics from Smith College, an M.A. in Public Policy from the University of Michigan, and is completing her doctorate in Business at the University of Colorado.

Frank A. Schmidtlein, Director, Division of Academic and Financial Planning, Maryland State Board for Higher Education

Frank A. Schmidtlein is the Director of the Division of Academic and Financial Planning of the Maryland State Board for Higher Education. Dr. Schmidtlein's major professional interests include decision theory and its implications for organizational structure, state coordination of higher education, organization, financing and governance of higher education and higher education research. His long list of publications include works on state budgeting for higher education costs and academic productivity.

He received his Ph.D. from the University of California, Berkeley and his Bachelor's Degree from Kansas State University.

Hayden W. Smith, Senior Vice President and Director of Research, Council for Financial Aid to Education

Hayden W. Smith is the Senior Vice President and Director of

Research of the Council for Financial Aid to Education. He has been with CFAE for eleven years. He is the author of several papers on the economics of higher education, the role of voluntary support in the financing of colleges and universities, corporate aid to education, and the impact of tax policies on charitable giving.

He was educated at Stanford University, receiving both undergraduate and graduate degrees in economics, with a minor in statistics.

He has taught economics and worked as an economist with Standard Oil of New Jersey (now the Exxon Corporation).

Victor Wenk, Deputy Administrator, National Center for Education Statistics

Victor D. Wenk became deputy Administrator for HEW's National Center for Education Statistics in March, 1979.

Since 1970, Mr. Wenk has served in various management positions within the Mitre Corporation's Energy Resources and Environment Division and its Systems Development Division. He was responsible for developing Mitre's statistical information systems program, a computer program that provides technical guidance and support to federal agencies concerned with the gathering, analysis and dissemination of nation-wide statistics.

Prior to joining Mitre, Mr. Wenk was a member of the technical staff of the Center for Naval Analysis and was a research scientist in the Aeronautics Division of the Philco-Ford Corporation.

A graduate of New York University, where he received a Bachelor's Degree in Engineering Science, Mr. Wenk earned a Master's Degree in Physics from Columbia University in 1963 and a Master's Degree in Business Administration from American University in 1976.

Paul Wing, Coordinator of Postsecondary Research, New York State Education Department

Paul Wing's major work experience has been in state-level higher education planning, first with the University of California central office, then with the National Center for Higher Education Management Systems, and now with the New York State Education Department. In his present capacity as the Coordinator of Postsecondary Research and Information Systems, Paul has been overseeing the development of a computer-based information system and a variety of research projects and analytical studies. Among the research areas currently receiving attention are enrollment projections, financing strategies, and institutional classification systems.

Paul received his B.S. in Engineering from Princeton University in 1962 and his Doctor of Engineering in Industrial Engineering and Operations Research from the University of California at Berkeley in 1971.

American Council on Education
National Association of College and University Business Officers
National Center for Education Statistics

Annapolis-3
1979 Working Conference
Progress in Measuring Financial Conditions of Colleges and Universities

Speakers

Robert H. Atwell, Vice President, American Council on Education, One Dupont Circle, Washington, D.C. 20036

E. Brady Bogue, Director, Performance Funding Project, Tennessee Higher Education Commission, 501 Union Building, Suite 300, Nashville, TN 37219

Marjorie Chandler, Acting Director, Division of Postsecondary Education Statistics, National Center for Education Statistics, 400 Maryland Avenue, S.W., Room 3073, Washington, D.C. 20202

Douglas Collier, Senior Staff Associate, National Center for Higher Education Management Systems, P.O. Drawer P, Boulder, CO 80302

Nathan Dickmeyer, Director, Financial Conditions Project, Economics and Finance Unit, American Council on Education, One Dupont Circle, Washington, D.C. 20036.

T. Michael Elliott, Director, Department of Higher Education, 1301 W. 7th Street, Little Rock, AR 72201

D. Francis Finn, Executive Vice President, National Association of College and University Business Officers, One Dupont Circle, Suite 510, Washington, D.C. 20036

Carol Frances, Chief Economist and Director, Economics and Finance Unit, American Council on Education, One Dupont Circle, Washington, D.C. 20036

D. Kent Halstead, Research Economist, National Institute of Education, 1200 19th Street, N.W., Room 709-D, Washington, D.C. 20208

William Haywood, Vice President, Business Affairs and Treasurer, Skidmore College Saratoga Springs, NY 12866

K. Scott Hughes, Director, Financial Management Center, National Association of College and University Business Officers, One Dupont Circle, Suite 510, Washington, D.C. 20036

Lucie Lapovsky, Coordinator, Financial Planning, Maryland State Board of Higher Education, Jeffrey Building, 16 Francis Street, Annapolis, MD 21401

William D. Law, Jr., Staff Director, Committee on Higher Education, Florida House of Representatives, 224 House Office Building, The Capitol, Tallahassee, FL 32304

Marilyn McCoy, Senior Associate, National Center for Higher Education Management Systems, P.O. Drawer P, Boulder, CO 80302

Dr. Frank A. Schmidtlein, Director, Division of Academic and Financial Planning, Maryland State Board for Higher Education, Jeffrey Building, 16 Francis Street, Annapolis, MD 21401

Dr. Hayden W. Smith, Senior Vice President and Director of Research, Council for Financial Aid to Education, 680 Fifth Avenue, New York, NY 10010

Paul Wing, Coordinator of Postsecondary Research, New York State Education Department, Cultural Education Center, Room 5B44, Empire State Plaza, Albany, NY 12230

American Council on Education
National Association of College and University Business Officers
National Center for Education Statistics

Annapolis-3
1979 Working Conference
Progress in Measuring Financial Conditions of Colleges and Universities

Participants

Richard Anderson, Teachers College, Box 34, Columbia University, New York, NY 10027

Loyd Andrew, College of Education, Virginia Polytechnic Institute, Blacksburg, VA 24061

Frank Atelsek, Director, Higher Education Panel, American Council on Education, One Dupont Circle, Washington, D.C. 20036

Curtis O. Baker, National Center for Education Statistics, 400 Maryland Ave., S.W., Room 3073 - FOB-6, Washington, D.C. 20202

George W. Baughman, Director, Special Projects, The Ohio University, 19 Administration Building, Columbus, OH 43210

Norman Brandt, Survey Director, National Center for Education Statistics, Room 3073, FOB-6, Washington, D.C. 20202

Roberta Cable, Sacred Heart University, Bridgeport, CT 06606

James J. Caputo, Controller, American Council on Education, One Dupont Circle, Washington, D.C. 20036

David I. Carter, Assistant to the Chancellor for Financial Affairs, The University of Alabama System, P.O. BT, University, AL 35486

Sharon Coldren, Assistant Director, Economics and Finance Unit, American Council on Education, One Dupont Circle, Washington, DC 20036

Anna Marie Cirino, Staff Assistant, National Association of College and University Business Officers, One Dupont Circle, Suite 510, Washington, D.C. 20036

Salvatore B. Corrallo, Director, Postsecondary Programs Division, U.S. Office of Education, 400 Maryland Ave., S.W., Room 4087, Washington, D.C. 20202

Kenneth M. Deitch, The Sloan Commission on Government and Higher Education, 330 Broadway, Cambridge, MA 02139

James Farmer, Systems Research, Inc., 1030 15th St., N.W., Room 300, Washington, D.C. 20005

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Jerry Glass, American Association of University Professors, One Dupont Circle, Suite 500, Washington, D.C. 20036

James A. Hyatt, Financial Analyst, National Association of College and University Business Officers, One Dupont Circle, Suite 510, Washington, D.C. 20036

Robin Jenkins, Financial Management Intern, National Association of College and University Business Officers, One Dupont Circle, Suite 510, Washington, D.C. 20036

C. Thomas Johnson, Vice President, Harris Trust and Savings Bank, 111 West Monroe St., Chicago, IL 60690

Steven M. Jung, American Institute for Research, P.O. Box 1113, Palo Alto, CA 94302

Ronald P. Kurtz, Manager, Financial Planning and Analysis, Student Loan Marketing Association, 1055 Thomas Jefferson St., N.W., Washington, D.C. 20007

David Longanecker, Analyst, Congressional Budget Office, 2nd and D Sts., S.W., Washington, D.C. 20515

James P. Maxwell, Operations Research Analyst, Office of Evaluation and Dissemination, U.S. Office of Education, Room 4087 - FOB-6, Washington, D.C. 20202

Paul F. Mertins, Chief, University and College Surveys and Studies Branch, National Center for Education Statistics, 400 Maryland Ave., S.W., Room 3073, FOB-6, Washington, D.C. 20202

David D. Mescher, Education Program Specialist, U.S. Office of Education, 400 Maryland Ave., S.W., Washington, D.C. 20202.

William Sanda, Congressional Budget Office, 2nd and D Sts., S.W., Washington, D.C. 20515